

NUCLEAR ISSUES IN THE SOUTH PACIFIC

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Nuclear Issues in the South Pacific...

HEARING  
BEFORE THE  
SUBCOMMITTEE ON  
ASIA AND THE PACIFIC  
COMMITTEE ON  
INTERNATIONAL RELATIONS  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

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NOVEMBER 15, 1995

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Printed for the use of the Committee on International Relations



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# NUCLEAR ISSUES IN THE SOUTH PACIFIC

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WEDNESDAY, NOVEMBER 15, 1995

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON INTERNATIONAL RELATIONS,  
SUBCOMMITTEE ON ASIA AND THE PACIFIC,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 2:03 p.m. in room 2200, Rayburn House Office Building, Washington, DC, Hon. Doug Bereuter (chairman of the subcommittee) presiding.

Mr. BEREUTER. The subcommittee will come to order. We have floor debate going on. We may have votes, so I think it is important we start approximately on time and I know that I will be joined shortly by the ranking minority member, Mr. Berman.

Today's hearing will focus on two issues. One, the resumption in September of the French nuclear testing in the South Pacific, and two, the decision by the Clinton administration announced on October 20 to sign the Treaty of Rarotonga, which establishes a South Pacific Nuclear Free Zone (SPNFZ), called commonly "spin-fizz."

One of the first acts of French President Jacques Chirac was to end France's 3-year moratorium and resume nuclear testing in French Polynesia. Three underground tests have been conducted since September, with three more planned in the coming months. Not surprisingly, this decision has resulted in a torrent of opposition in the form of diplomatic protests, boycotts of French products, and even rioting in the Tahitian capital. Certainly those people who live in Oceania are understandably concerned about the environmental impact and safety of these tests. Moreover, governments throughout the region are deeply offended by the lack of consultation by the French.

It was largely based on these principles that this subcommittee on July 13 of this year, and the full committee on International Relations on July 26, passed House Concurrent Resolution 80, introduced by my distinguished colleague from American Samoa, Mr. Faleomavaega, which calls on France to cease nuclear testing in French Polynesia. This member immediately expressed willingness for the legislation to be considered by the full House. Apparently, however, the majority leadership is waiting for an indication that the minority leadership views this as a sufficiently important resolution to be assigned floor time. Therefore, there has been no floor action on H. Con. Res. 80.

The issues surrounding nuclear testing, however, are complicated and not easily resolvable. It is a question that we in the United States have been grappling with for a number of years, and there is nothing approaching unanimous support in this country or in the

Congress for a comprehensive test ban. As long as nuclear weapons remain a cornerstone for this nation's defense, there must be some way to reassure ourselves that stored weapons continue to be safe and reliable. However, even if it is concluded that testing must be conducted for these reasons, basic common sense dictates that it be done in the safest manner possible and under circumstances where the local populace has some voice and decisions about the circumstances of such tests.

Regarding the South Pacific Nuclear Free Zone (SPNFZ), I would say that while I am open-minded regarding the Administration's action on SPNFZ, I admit to being puzzled by the timing of that decision and uncertain about the manner by which the decision was reached. Several previous administrations refused to sign the treaty due to global security concerns; therefore I am concerned that the current administration has reversed that decision with little apparent internal debate and no consultation that I am aware of with Congress. I think that an explanation to Congress is overdue. Such an explanation can begin here today.

Assistant Secretary McNamara in his testimony provides some comments about the decision to sign SPNFZ, including the fact that the 1995 NPT Review Conference, which extended the NPT unconditionally and indefinitely, endorsed nuclear free zones. In his statement, Secretary McNamara states that "none of the U.S. current or prior activities or practices within the zone are inconsistent with either the treaty or its protocols."

My concern about the treaty, however, does not involve current or prior military activities, but instead whether accession to the treaty could constrain any important U.S. military activities in present and future contingencies. I will look for better administration assurances on this point. Although I am certainly not an expert on SPNFZ, I would also point out some arguments made by previous administrations against U.S. accession. I would be interested in comments on these arguments from our witnesses today.

For example, could U.S. accession to SPNFZ give momentum to more problematic nuclear-free zone proposals such as proposals for Southeast Asia, which would limit our ability to meet our security commitments? What does accession mean for our global policy of neither confirming nor denying the presence of nuclear weapons on ships or aircraft—the NCND—and finally, is it possible that over time our military operations at Kwajalein Atoll and other territories in the region might be restricted by our accession to the SPNFZ?

I would say to my colleagues that I am pleased we have been able to assemble excellent witnesses to address these issues. The Administration will be represented by the Honorable Thomas E. McNamara, Assistant Secretary of State for Political-Military Affairs whose bureau has primary responsibility for arms control and non-proliferation issues.

In addition, we have three very knowledgeable non-governmental panelists. The Honorable William Bodde, Jr., currently senior advisor for the Pacific Basin Economic Council, who has years of South Pacific experience as a former U.S. Ambassador to Fiji and the Marshall Islands, among other things.

Our original witness from Greenpeace International was to be Mr. Thomas Clements from Greenpeace's Nuclear Campaign office. Mr. Clements, however, was unable to testify today due to illness and has been replaced by Mr. Josh Handler of Greenpeace.

Finally, Mr. Richard Fisher, senior policy analyst at the Asian Studies Center of the Heritage Foundation will provide what I expect will be an interesting counterpoint to some of Greenpeace's testimony on nuclear testing issues and SPNFZ.

Before we begin hearing from the witnesses, I would like to call upon any other members here today who might wish to make a brief opening statement. Since Mr. Berman is not here at this point, I would turn to my colleague from American Samoa, Mr. Faleomavaega, for any comments he might have.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman. I do have a statement.

Mr. BEREUTER. Without objection, the whole statement will be made a part of the record. You may proceed as you wish.

[The prepared statement of Mr. Faleomavaega appears in the appendix.]

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman. If it is all right with you, I would also ask your authorization to have the record kept open in case there are other materials for submission by parties that may want to provide statements to be made part of the record.

Mr. BEREUTER. Without objection, that will be the practice and will certainly prevail in this case.

Mr. FALEOMAVAEGA. Mr. Chairman, I commend you and thank you very much for holding this hearing to examine nuclear issues in the South Pacific. Without a doubt, it is your leadership and your efforts in providing for this forum that will give not only our policymakers here in Washington but the American people a better understanding of what I consider to be one of the highest priorities and certainly the greatest concern to the people in the Pacific region as well as to our own country.

Two months ago, despite near universal condemnation, France exploded a nuclear bomb at its testing facilities at French Polynesia's Moruroa Atoll and joined China in breaking the international testing moratorium which the United States has supported. In the weeks following, France detonated two additional nuclear bombs and plans three more tests.

France's decision to break the testing moratorium impedes progress toward curbing the spread of nuclear weapons achieved this spring at the U.N.'s Extension Conference with the Nuclear Non-Proliferation Treaty and certainly undermines the negotiations to conclude a Comprehension Test Ban Treaty. In the aftermath—

Mr. BEREUTER. Would the gentleman permit me to interrupt just a second?

Mr. FALEOMAVAEGA. Sure.

Mr. BEREUTER. I have read Secretary McNamara's full statement and in order to facilitate the hearing, I am going to permit the gentleman to continue his opening statement and ask him if he will take the chair and proceed with the first witness, and at that point recess if I am not back?

Mr. FALEOMAVAEGA. I will be more than happy to cooperate in any way possible with the chairman, and certainly will assist him in that fashion.

In the aftermath of the cold war, continued nuclear testing by the nuclear powers legitimizes these weapons and encourages rogue states to acquire nuclear explosive devices that threaten the security of the United States. Moreover, I am particularly concerned with the possible environmental and health risks that French nuclear tests present, not only to the people of French Polynesia and the region, but to some one million Americans who live in the Pacific.

Although the French Government has denied that the tests threaten the health and safety of Pacific residents or endanger the region's fragile marine environment, documents released by France's Atomic Energy Commission confirm that at least three tests in the past have lead to radioactive contamination of Moruroa Atoll. Moreover the scientific missions to Moruroa Atoll, although severely restricted by French authorities in their access to test sites, test data and time for study, have verified the presence of radioactive isotopes such as iodine-131, cesium-134, tritium, krypton-85, and plutonium. The presence of these radionuclides substantiate fears that leakage, venting, and accidental dispersal of radioactive materials have occurred at France's test facilities.

Despite France's assurance to the contrary, these reports confirm that their underground testing program cannot ensure that radioactive contamination is fully contained now, let alone in the long term where it cannot be contested that radioactive leakage to the surrounding environment is inevitable.

The French scientific mission, lead by world-famous oceanographer Jacques Cousteau in 1987, found solid evidence of structural damage to Moruroa Atoll, including spectacular fractures, cracks, and fissures, causing him to report that the water-surrounded test site was the worst choice for containment of radioactive waste. I commend Commander Cousteau who protested France's resumption of nuclear testing in the Pacific by handing French President Chirac his resignation from the government's top environmental review panel.

After over 180 nuclear bomb explosions in French Polynesia, Moruroa Atoll has been described by technicians as "a Swiss cheese of fractured rock". For those living in the Pacific, it is disturbing to think of the consequences if France's continued testing ruptures the atolls and releases into the ocean currents unimaginable amounts of radioactive contaminants. While all other nuclear powers test within their borders, the people of Tahiti have urgently opposed France's use of their islands as a nuclear test dump site from the very beginning in the 1960's.

The recent nuclear bomb detonations at Moruroa and Fangataufa Atolls, a decision made in Paris over 10,000 miles away, symbolize France's colonial arrogance and reckless disregard for the welfare of 200,000 Tahitians and the 28 million men, women, and children who live in the Pacific region. If these tests are so safe, France should test in France rather than forcing their hundreds of nuclear detonations on unwilling people far, far away.

Although I find France's resurrection of the nuclear nightmare in the Pacific to be deplorable, I find it just as deplorable reports that our government may be aiding France's testing program in the South Pacific. While the United States has gone on record in opposing France's nuclear testing and called for its end, there are indications that the United States is permitting French DC-8 supply planes en route to Moruroa to overfly and refuel in U.S. territory. My understanding is that the State Department has not definitively declared that fissile materials were not on board these French aircraft. Transporting plutonium through American airspace without Energy Department clearances is unlawful and illegal, according to U.S. law.

In light of U.S. policy and opposition to French nuclear testing, I find this matter to be rife with hypocrisy. Whether the Administration is placing the American public at nuclear peril with these French overflights or is covertly supporting France's nuclear testing in the Pacific, I think they owe Members of Congress answers regarding the extent of U.S. nuclear collaboration with the French.

On the other hand, I support the Administration's decision to join the South Pacific Nuclear Free Zone Treaty (SPNFZ), an event of historic importance to the nations of the South Pacific as it promotes the permanent end to nuclear testing in the region. I strongly feel, however, that the United States should sign the SPNFZ protocols immediately, rather than wait until mid-1996 for joint accession with the French and the British. If the Administration is serious about non-proliferation, we should stop accommodating France and providing political cover for their continued testing in the Pacific. Paris should not be dictating to Washington U.S. foreign policy.

Joining the SPNFZ treaty is in the U.S. national interest as it advances U.S. non-proliferation objectives without undermining U.S. security practices in the South Pacific as past administrations have conceded while testifying before Congress. The treaty was carefully drafted, and note this, Mr. Chairman, with considerable input from the Reagan administration, to accommodate U.S. interests, including our policy to neither confirm nor deny the presence of nuclear weapons on American warships and aircraft, and it specifically protects free transit through the zone by U.S. vessels and planes carrying nuclear weapons.

The United States already supports nuclear weapon-free zones around the world, and has signed treaties prohibiting nuclear weapons in Latin America, the Antarctic, the ocean floor, and in outer space. Not long ago, the White House lauded Argentina, Chile, and Brazil's entry into the Latin American Nuclear Free Zone Treaty, noting the treaty which the United States entered into during the Nixon and Reagan administrations has been a critical building block for peace and stability in the Western Hemisphere, our back yard, while reinforcing the international proliferation regime.

With cessation of the cold war, justification for much of our nation's past reluctance to join the SPNFZ treaty has evaporated. The Soviet nuclear threat in the Pacific no longer exists. Instead, the United States and Russia are committed to deep reductions in their nuclear arsenals. The United States has removed tactical nuclear

weapons from its surface fleet, and the prospects for a Comprehensive Test Ban Treaty are good in 1996.

In this new post cold war era of lessened nuclear tension, it is about time that the United States heeded the calls for assistance by our Pacific allies by signing the SPNFZ protocols as part of the comprehensive nuclear proliferation policy.

As you have heard, Mr. Secretary, the chairman would like a 5-minute recess until his return. He would like to hear your testimony. I certainly want to commend you and the members of the Administration that are here before our subcommittee for your comments and testimony concerning the nuclear issues now facing the Pacific. I now call a short recess until the chairman returns. Thank you.

Mr. BEREUTER. The subcommittee will return to order. This was Mr. Faleomavaega's chance to chair the hearing, and I am surprised he passed it up.

Mr. FALEOMAVAEGA. Well, Mr. Chairman, I do believe in working with you in a bi-partisan spirit, and wanted to make sure that we in the minority respect the tremendous responsibilities that you bear. Moreover, I am very appreciative that you have called this hearing with our friends from the Administration so that we can better understand the nuclear problems in the Pacific.

Mr. BEREUTER. Thank you very much. I appreciate your generous comments. This is an important hearing, and I am pleased to proceed with it.

We had a vote on the House floor and so that is why I left, and unfortunately Mr. Faleomavaega does not get to cast those votes on the floor. He has to do all of his best work here in—

Mr. FALEOMAVAEGA. Well, Mr. Chairman, if you had authorized us, as done previously, a symbolic vote, perhaps I could have accompanied you on this one.

Mr. BEREUTER. I knew that was coming.

Mr. FALEOMAVAEGA. Well, that is all right.

Mr. BEREUTER. Secretary McNamara, with that kind of interplay out of the way, we are very pleased to have your testimony. As you recall, I already introduced you. We will allow 5 or 6 minutes or whatever you need, frankly, to convey your message to us. You may read or summarize as you see fit. Please proceed.

#### **STATEMENT OF HON. THOMAS E. McNAMARA, ASSISTANT SECRETARY OF STATE FOR POLITICAL-MILITARY AFFAIRS, U.S. DEPARTMENT OF STATE**

Mr. McNAMARA. Thank you, Mr. Chairman. Good afternoon to you and the members of the subcommittee.

I am here today to discuss two issues that have direct relevance to the nuclear non-proliferation regime, the issue of the treaty creating the South Pacific Nuclear Free Zone, known as the Treaty of Rarotonga, and French nuclear testing in that zone. First, however, I would like to put these discussions into a global context, if I might.

The cornerstone of the global nuclear non-proliferation regime, the treaty of non-proliferation of nuclear weapons, the NPT, was extended indefinitely and unconditionally in May of this year. That extension of the NPT—a treaty which is essential and invaluable

in securing global peace and security—was made possible through the combined efforts of many nations.

Leadership on the indefinite extension of the NPT was exercised by a very diverse group of states which included, among others, the United States, West European countries, Canada, Australia, Japan, Argentina, and South Africa. South Africa played a unique role in the conference as the only country to have possessed nuclear weapons and to have renounced them and joined the NPT. President Mandela's courage, wisdom, and foresight on this issue were central to achieving the treaty's permanent extension. In addition, the contributions of the nations of the South Pacific, while less public, were equally vital.

These states were long-term advocates of NPT extension, endorsing the principle of indefinite extension at the 1993 and 1994 meetings of their regional organization, the South Pacific Forum. They joined with us at the NPT Review Conference in sponsoring the resolution to extend the NPT indefinitely and without condition, a resolution ultimately co-sponsored by a majority of all of the NPT parties. President Clinton called this overwhelming consensus in favor of making the treaty permanent critical in making the American people and the people of the world more safe and secure.

Let me turn now to the Treaty of Rarotonga, or the South Pacific Nuclear Free Zone Treaty. As we noted in connection with the decision to extend the NPT, the United States believes that internationally recognized nuclear weapon-free zones, on the basis of arrangements freely arrived at among the states of the region concerned, can and do contribute to international peace and security. The 1995 NPT Review and Extension Conference Resolution on Principles and Objectives repeated this judgment and encouraged the creation of such zones as a matter of priority. The conference also recognized that the cooperation of all the nuclear weapons states, and their respect and support of the relevant protocols, are necessary for maximum effectiveness of such nuclear weapon-free zones. In this light, the United States, the United Kingdom, and France jointly announced on October 20, 1995 our intention to sign the relevant protocols to a South Pacific Nuclear Free Zone, the Treaty of Rarotonga, in the first half of 1996.

The treaty prohibits the testing, manufacture, acquisition, or stationing of nuclear explosive devices in the territory of the parties to the treaty and also prohibits the dumping of radioactive wastes at sea within the zone. The treaty also requires all parties to apply full scope International Atomic Energy Agency safeguards to all their peaceful nuclear activities. A comprehensive control system, which includes mandatory onsite inspections, has been established to verify compliance with the treaty. The treaty affirms the right of each party to allow visits by foreign ships and aircraft to its ports and airfields. Finally, the treaty specifically upholds freedom of navigation on the high seas and passage through territorial waters guaranteed by international law.

In addition, the treaty also has three protocols. Protocol 1 provides states that territories within the zone are to apply the basic provisions of the treaty to their respective territories. The treaty will therefore apply to American Samoa and Jarvis Island once the United States ratifies this protocol.

Under Protocol 2, the nuclear weapons states agree not to use or threaten to use nuclear weapons against any party to the treaty or the territory within the zone of protocol parties.

Under Protocol 3, nuclear weapons states agree not to test nuclear weapons within the zone established by the treaty.

The Treaty of Rarotonga was opened for signature on August 6, 1985 at Rarotonga, the largest of the Cook Islands. All nations of the South Pacific are eligible to join the treaty. The treaty entered into force December 11, 1986. The protocols to the treaty were opened for signature on August 8, 1986 and I would stress that none of the U.S. current or prior activities or practices within the zone established by the treaty are inconsistent with either the treaty or its protocols.

Our decision to sign the relevant protocols of the Treaty of Rarotonga at this time and the recent joint announcement to that effect reflect positive regional and global developments that have recently occurred. All countries relevant to the treaty and its protocols have become parties to the Treaty of Non-Proliferation of Nuclear Weapons, the NPT. Also as we have seen, the NPT itself was extended indefinitely and without conditions on May 11, 1995. We have also made progress on a comprehensive treaty banning the testing of nuclear explosive devices. All of these positive developments have contributed to our recent announcement with the United Kingdom and France that we will sign the relevant protocols to the treaty during the first half of 1996.

Finally on this issue, Mr. Chairman, I would like to emphasize an essential point. None of the practices or activities of the United States in the region are impaired by the Treaty of Rarotonga. In particular, the rights of transit for naval forces are specifically guaranteed. In short, the treaty helps guarantee our own security and the security of nations in the zone in a thoughtful manner consistent with U.S. global policies concerning nuclear non-proliferation.

Next, Mr. Chairman, let me turn to the issue of nuclear testing. The issue of nuclear testing by France or any other nation is best viewed in the context of efforts to achieve a Comprehensive Nuclear Test Ban Treaty, or CTBT, in 1996. The CTBT is a high priority of this administration. A universal and verifiable CTBT will serve the U.S. national interest by foreclosing the possibility of further nuclear weapons modernization by the five nuclear weapons states and by establishing barriers to the development of modern nuclear weapons by the non-nuclear weapons and threshold-nuclear states. As an indirect but very real benefit, the CTBT will strengthen the Non-Proliferation Treaty, the key to international nuclear non-proliferation. Most parties to the NPT, including successive U.S. administrations, have interpreted the NPT's Article VI to require nuclear-weapons states to conclude a CTBT.

The President has given this issue his personal attention and has twice made decisions designed to move the negotiations in Geneva forward. In January of this year, he decided to abandon the U.S. position enabling nations to withdraw from the treaty after 10 years for reasons other than supreme national interest, and in August, he announced the United States would pursue a zero yield CTBT.

The United States has consistently urged other nations in the Conference on Disarmament to move forward quickly. We have, for instance, sought extra meetings during the periods between the conference's regular sessions. The President has also written his counterparts among the members of the Conference urging them to instruct their negotiators to conclude the treaty in time for a signature in the fall of 1996.

France is a strong supporter of the zero yield CTBT, which is the position of the United States, and of concluding the treaty by the fall of 1996. We take note of President Chirac's strong commitment to end the testing and conclude a CTBT by May 1996 and to sign a CTBT no later than that fall. In addition, France has been very helpful, extremely helpful, in working within the P-3 and the P-5 to forge an agreement on the details of such a treaty, and we believe their continued active participation is critical to signing the treaty by next fall.

While we welcome France's commitment to a zero yield CTBT and its support of our efforts and others to have the treaty ready for signature, we regret the French decision to resume testing. We have repeatedly and consistently made our position known to them. We believe a global moratorium on nuclear testing will provide the most favorable environment in which to negotiate a true zero yield Comprehensive Test Ban. In this light, we are pleased to note the French decision to curtail their testing schedule from eight tests to six. Finally, by committing itself through the October 20 joint statement to sign the relevant protocols of the Treaty of Rarotonga that prohibit nuclear testing in that zone, France has signaled its intention to halt nuclear testing by mid-1996.

Once again, I would like to thank the committee for allowing me to come here and to speak before it, and I would be pleased to answer any questions you may have.

[The prepared statement of Mr. McNamara appears in the appendix.]

**Mr. BEREUTER.** Thank you very much, Secretary McNamara. Mr. Faleomavaega, since there are only two of us here, I think I am just going to set this at a 10-minute level and give us double the amount of time for our witnesses today.

Oops. Got a red light already. Do you want to see if we can use that? All right.

**Mr. FALEOMAVAEGA.** Mr. Chairman, I always say that you control the Golden Rule—he who has the gold makes the rules. So you have the gold, Mr. Chairman. You really do not need to restrain yourself to 5 minutes.

**Mr. BEREUTER.** We will try to live equitably, though.

Secretary McNamara, there is a report in *Le Monde* that the French fly nuclear components and fissile material over the United States bound for the test site. Mr. Clements' testimony indicates that is contrary to U.S. law. I have not had a chance to verify if that is the case. I am wondering if you can tell us if that is accurate, and if so, at what level was the decision made to permit such overflights.

Do such overflights comply with U.S. law? As I think about that question, I recall the French refused to let American planes fly over France during our combat engagement with Libya. This damaged

the accuracy of our weapons by the fact that they could not proceed over France and took a longer period of time. So it would be rather ironic if we are allowing the French to fly over the United States with fissile material and other nuclear test materials when we were disallowed by a NATO ally—they are not a part of the military command structure, but they are a NATO ally—the ability to overfly France during the Libyan activities.

Mr. McNAMARA. Well, Mr. Chairman, let me note that first of all, I am not familiar with the article that you mentioned. However, governments—the United States and France—regularly seek and are granted clearance for official aircraft to overfly other countries. The United States grants such overflight of the United States. We seek it from France, and other countries also.

The request for these overflights and permission for these flights acknowledge, and ordinarily under U.S. law are required to acknowledge, the presence of hazardous materials. The French are aware of that and fill out the necessary forms when requesting the overflights; and in only one case did they indicate that they were requesting an overflight of an aircraft that was carrying hazardous materials. The hazardous materials were not nuclear, nor were they related to nuclear activities.

We have granted overflight clearance to several French military missions in 1995. The French have been following all of the regulations that we have with respect to these flights. I would like to point out also that in granting these overflight rights and landing rights, the United States is following customary and accepted international practice. These flights, with the diplomatic and military privileges that accrue to such flights, have been a standard practice in the United States and among our allies for many years. That does not mean that every single flight is approved or that we do not turn down some flights, just as France practicing its sovereign rights at times does turn down such flights.

But in fact, the standard diplomatic practice is that the transit of these aircraft is permitted. In that context, the United States has been approving these flights. With respect to France not allowing the U.S. flights in the case of Libya, that was a policy decision by the French Government having specifically to do with the attack that was occurring or going to occur in Libya.

In fact, there are literally thousands of U.S. flights that overfly France, and France represents a very vital link in our NATO flight patterns in Europe. As I would point out, there are neutral countries that lie between Germany and Italy, for example, and between Germany and Spain that means that the overflight of France is a regular and very frequent occurrence.

Mr. BEREUTER. Yes, Mr. Secretary, I am aware of that. I would have two specific questions for you. One, have the French flown fissile material over the United States, and two, is it contrary to U.S. law?

Mr. McNAMARA. It is. To fly nuclear materials or fissile material without declaring them as hazardous material and without getting U.S. permission would be contrary to U.S. law. I have no information that France has violated U.S. law.

Mr. BEREUTER. All right. According to the testimony of Greenpeace—which they will offer here today—as early as July

1979, cracks were detected in the Moruroa—I am not sure I pronounced that right—Atoll surface. Can you comment upon the government's knowledge of the accuracy of that statement or condition, or the likelihood of that phenomenon?

Mr. McNAMARA. I am not an expert in this area and I do not know what cracks may or may not have been observed. I can state that the U.S. Government knows and approves of the requests by the Government of France to the International Atomic Energy Agency in Vienna to go to the atoll, to go to the area around the atoll also, and to conduct an inspection. It is our belief that the International Atomic Energy Agency in Vienna is a competent, highly respected, and impartial body and they are now undertaking to respond to the French invitation to come and conduct such an inspection.

I think the answer to those questions are best at this point held in abeyance until we have the report resulting from the inspection by the IAEA. I would note that if the United States is invited to join in such an inspection, we would in all likelihood be very pleased to do so.

Mr. BEREUTER. Thank you. I think Mr. Faleomavaega will pursue matters related to the testing more extensively. I would like to move to the South Pacific Nuclear Free Zone for the remainder of my questions, I believe.

In your statement, referring to the Treaty of Rarotonga, on page 5 you indicate, "In particular, rights of transit for naval forces are specifically guaranteed in the treaty." I would ask you, does that include American naval vessels with nuclear weapons or nuclear powered naval vessels, either way?

Mr. McNAMARA. Yes. In fact, both would be permitted to transit the zone, according to the terms of the treaty.

Mr. BEREUTER. I'm looking at Protocol No. 1, Article I, the prohibitions contained in Articles III, V, and VI insofar as they relate to manufacture, stationing, and testing of any nuclear explosive device within these territories. The word I am focusing on there and want you to focus on is the "stationing" question. Do you have any concerns—do we as a government have any concerns about the meaning of "stationing"?

Mr. McNAMARA. We do not have at this time any concerns. The term "stationing" would not, if this is asked in connection with the previous question—

Mr. BEREUTER. It is.

Mr. McNAMARA. It would not affect transit, which is a separate category and recognized in international law as being a specific activity. Transiting and stationing are two different things.

Mr. BEREUTER. Do you foresee any circumstances where the U.S. facilities at the Kwajalein Atoll would come under a prohibition in the South Pacific Nuclear Free Zone?

Mr. McNAMARA. One of the efforts that is underway right now is to define all of these details with respect to the first, second, and third protocols; to develop a statement of the U.S. Government position with respect to our interpretation of those protocols; and to present them to the Congress and discuss them in such detail as is necessary when the U.S. signature goes forward in 1996. In ad-

vance of and subsequent to signature, we will be prepared to discuss this and other issues here with the Congress.

I can state, and it also responds to the point you made in your opening statement, that not only present but also future activities are being considered in our decision—have been considered in our decision to go ahead and to sign the protocols. Therefore, we do not believe that we would be inhibited from performing any activities or undertaking any actions that we either would like to do or expect to do in the future.

Mr. BEREUTER. And that includes—

Mr. McNAMARA. So we do not feel that we would be inhibited in carrying out our responsibilities for the defense of the United States and our cooperative relationships with other nations.

Mr. BEREUTER. And within that statement, you are including the Kwajalein Atoll and the activities that take place there?

Mr. McNAMARA. Correct.

Mr. BEREUTER. In your judgment, why did the French Government shift its position on the South Pacific Nuclear Free Zone, and what impact, if any, did the French shift have on our own U.S. stance?

Mr. McNAMARA. I would be cautious in stating why I think the French changed their position. I think that is best left to the French Government. I believe some of the factors that played a role were, first, the French decision, before making a decision with respect to the South Pacific Nuclear Free Zone, to support a comprehensive test ban, and second, the French decision to support a comprehensive test ban in 1996. Therefore the expectation certainly must have been that any testing that France intended or would intend to do would have to come to an end in a very short term, namely by 1996. Given that situation, it is not surprising that they would then be willing to sign on to the protocols, particularly the protocol which would say that they would no longer be able to test.

As far as the U.S. decision, as I said, there were a number of global and regional matters that changed in recent years.

Mr. BEREUTER. I was going to ask you what the changes are that caused the United States to shift its position in support of the South Pacific Nuclear Free Zone.

Mr. McNAMARA. Well, I would mention that we have not been opposed to SPNFZ. We simply were concerned given the situation in the world. This was during the cold war, and subsequently, that we be very careful about signing on to the SPNFZ, although our activities in that zone as we pointed out were not inconsistent with the treaty and its protocols.

Mr. BEREUTER. We may not have been opposed. I will accept your statement on that.

Mr. McNAMARA. Right.

Mr. BEREUTER. But we chose not to become a signatory and it was only in October, I think on the 20th, when the decision was made—

Mr. McNAMARA. That is right.

Mr. BEREUTER [continuing]. that we intended to sign.

Mr. McNAMARA. The most important factors as I mentioned in my statement had to do with the permanent extension of the Non-

Proliferation Treaty in March and the position of the U.S. Government and the success that we have had in advancing a negotiation of a Comprehensive Test Ban, which has been going forward. Right now, we have every expectation that we would be able to complete it by next year.

Those two factors were very important in our decision to join with the British and the French in announcing signature in the first half of 1996.

Mr. BEREUTER. Secretary McNamara, the Southeast Asian countries have a nuclear-free zone proposal commonly referred to as the Southeast Asia Nuclear Weapons Free Zone, pronounced "spin-fizz." Why is the South Pacific Nuclear Free Zone in the U.S. interest while the Southeast Asia Nuclear Weapons Free Zone is not, and what are the U.S. criteria in determining whether or not we support nuclear-free proposals?

Mr. McNAMARA. Well, we have not yet determined that the Southeast Asia Nuclear Weapons Free Zone is not in our interest.

Mr. BEREUTER. We have not?

Mr. McNAMARA. No, we have not. We have some concerns about the current text, but I would point out that the negotiation among the states in the region of that zone has not yet been completed. In fact, this week we have a delegation in Southeast Asia talking to the states in the region specifically about the current draft of that treaty. If all of our concerns, and as you mentioned, the criteria that we have laid out with respect to nuclear weapon-free zones, if these concerns and these criteria can be met, then I would expect that in due course we would not oppose the Southeast Asia Nuclear Free Zone.

Mr. BEREUTER. Secretary McNamara, what are the criteria? Do you have those?

Mr. McNAMARA. Well, there are seven of them, and I think I can either read them out here or I can put them as a statement in the record.

Mr. BEREUTER. If you could list the title or the sentence which gives it, we will put the entire statement of the criteria in the record.

Mr. McNAMARA. Fine. The first of them is that the nuclear-free zones should be entered into and undertaken by the states in the region. The second is that all the states that are deemed important to the success of such a zone should participate in the zone. The third is that the adequate verification and compliance of the zone must be provided for. The fourth is that existing security arrangements should not be disturbed by such a zone. The next is that the zone arrangement should effectively prohibit the development of nuclear explosive devices. The next is that the zone should not affect the rights of parties for transit and the privileges of transit in international waters, and air space, including that of nuclear-powered and nuclear-capable vessels and aircraft, and finally that the zone arrangement should not seek to impose restrictions on the freedom of the high seas or that of innocent passage in international waters, international straits, etc.

Mr. BEREUTER. Is there more information elaborating on those seven points?

Mr. McNAMARA. That is right.

Mr. BEREUTER. Without objection, we will make that a part of the hearing record—the entire statement about the seven criteria. [The information follows:]

#### U.S. NUCLEAR WEAPON-FREE ZONE CRITERIA

- The initiative for the creation of the zone should come from the states in the region concerned;
- All states whose participation is deemed important should participate in the zone;
- The zone arrangement should provide for adequate verification of compliance with its provisions;
- The establishment of the zone should not disturb existing security arrangements to the detriment of the inherent right of individual or collective self-defense guaranteed in the U.N. charter;
- The zone arrangement should effectively prohibit its parties from developing or otherwise possessing any nuclear device for whatever purpose;
- The establishment of the zone should not affect the existing rights of its parties under international law to grant or deny other states transit privileges within their respective land territory, internal waters and airspace to nuclear-powered and nuclear-capable ships and aircraft of non-party nations, including port calls and overflights; and
- The zone arrangement should not seek to impose restrictions on the exercise of rights recognized under international law, particularly the high seas freedom of navigation and overflight, the right of innocent passage of territorial and archipelagic seas, the right of transit passage of international straits, and the right of archipelagic sea lanes passage of archipelagic waters.

Mr. McNAMARA. The seven criteria. Correct.

Mr. BEREUTER. Finally, Secretary McNamara, I believe that one of the concerns about U.S. agreement to nuclear-free zones is the expected or potential proliferation of such agreements and the inhibition or limitations that will have on our nuclear deterrent. Would you care to comment about why that was not a factor in our endorsement and expectation for signing the SPNFZ Treaty?

Mr. McNAMARA. Well, I would say, Mr. Chairman, that in the consideration of all nuclear-free zones, that is a very important consideration. In fact, in each instance when these regional zones have been proposed and/or negotiated—we have applied the criteria, if you will, or asked the question as to how it might affect U.S. defense and deterrents.

In the case of the Latin American Nuclear Free Zone, we supported and signed the protocols with respect to that zone precisely because we thought that that would first be consistent with our defense policies and our deterrent policies and also that we thought in fact it would enhance those policies. In the case of the South Pacific Nuclear Free Zone, we believe that also is the case. That is our evaluation. In the case of the Southeast Asian Free Zone, we are still considering the matter and will make a judgment before we would decide either to support the zone or to sign any protocols that may result.

That is also equally the case with the other nuclear-free zone that is now under discussion, that is the African Nuclear Free Zone.

Mr. BEREUTER. I hope there will be some consultation with Congress.

Mr. Faleomavaega.

Mr. FALEOMAVAEKA. Thank you, Mr. Chairman, and I want to thank Secretary McNamara for his statement.

Mr. Secretary, I just want to pursue the Chairman's earlier question about the overflights. I am somewhat puzzled. You are saying

that through diplomatic procedures, this is how the French have been authorized for all this time to conduct overflights of the United States by their aircraft and not be questioned whether there are fissile or radioactive materials on these flights?

Mr. McNAMARA. First of all, they are done on a case-by-case basis and in each case, there is such a query and the French have only responded in one instance indicating that there was hazardous material. The hazardous material, as I mentioned, was not nuclear material nor material related to nuclear activities.

This is the standard practice. It is the same practice that the French apply when the United States applies to overfly French territory. There is a form that is filled out that in fact asks the question.

Mr. FALEOMAVAEGA. But this is almost like saying do not ask the question. It just—

Mr. McNAMARA. Oh, the question is asked, sir.

Mr. FALEOMAVAEGA. And they are committed and they are supposed to be—

Mr. McNAMARA. Right.

Mr. FALEOMAVAEGA. And they do detail exactly what is contained in these aircraft?

Mr. McNAMARA. If there is a hazardous material, then we would expect them to detail it and—

Mr. FALEOMAVAEGA. Because it would be a violation of our laws?

Mr. McNAMARA. That is correct.

Mr. FALEOMAVAEGA. So for all this time, these aircraft flown over our airspace have been, as far as you are concerned, in compliance with our laws regarding disclosure of nuclear and hazardous materials?

Mr. McNAMARA. As far as we know, they are in full compliance, yes.

Mr. FALEOMAVAEGA. I go back to the question of why we have to wait until May of next year to sign off on the protocols? It seems to me, Mr. Secretary, that Chirac is just telling Majors and President Clinton, "This is what I want done, and you guys just follow." Why do we have to wait until France completes its testing program in May? What global or regional concerns do we have to warrant waiting until May to sign off on these protocols?

Mr. McNAMARA. I think the answer there is not that we have global concerns that cause us to wait until next May. It is rather that we and our close allies, France and Great Britain, have agreed to sign these protocols and in agreeing to sign them, it is very clear that the most important signature among the three of us is that of France.

The United States is doing nothing in the region which is contrary to the treaty or the protocols, Great Britain is doing nothing in the region which is contrary to the treaty or the protocols, and France is testing. When France brings its testing program to an end in the first half of 1996 and signs the protocols, we will have achieved something very concrete and very important in terms of closing down testing in that region.

Mr. FALEOMAVAEGA. You do not consider China, Pakistan, India and Israel as other countries that should be part of these important steps in non-proliferation of nuclear weapons?

Mr. McNAMARA. Oh, I most certainly do, sir. I would point out that none of those countries are testing in the region. The only country that is testing in the region is France, and that puts France in the position where its signature on those protocols is of great importance to the success of the treaty and the protocols, and that has been our goal and objective moving in this direction. To make sure that—as I said, one of our criteria is that all of the countries in the region, whatever that region may be, participate. France has territory in the region and will be signing the protocols as will the United States and Great Britain. Because it has been testing in the region, its signature is of particular importance.

Mr. FALEOMAVAEKA. I noticed that the Nixon and the Reagan administrations have been responsible for our country becoming a signatory to the nuclear-free zone treaty in South America. Do you find that treaty any different from what we are signing for the SPNFZ?

Mr. McNAMARA. Essentially, they are very similar. There are differences—each one of these zones when they are set up, each treaty is slightly different. I will give one particular difference, for example, in the case of the South Pacific and the Latin American zones. The South Pacific specifically has a section, an article, with respect to dumping nuclear waste in the seas within the zone. I do not believe that that provision exists in the case of Latin America. Therefore, that is a difference.

Essentially, they are very similar, but each one must be looked at as if it is individually written. It contains certain legal language and legal requirements which the United States, once it signs, would be observing and forced to observe. Therefore, we have a duty and an obligation to examine each one on a case-by-case basis because they are each slightly different in certain respects.

Mr. FALEOMAVAEKA. There was also some concern about the use of the territory of American Samoa, that this might be a restriction for our ability to store nuclear weapons there if we have to. Was that same restriction in the Latin American treaty with regards to Puerto Rico and the Virgin Islands?

Mr. McNAMARA. In fact, it would be a similar concern that would have to be addressed in the case of the signature in both cases. I believe, but I am not certain, that we exempted Puerto Rico when we signed onto the Latin American Nuclear Free Zone.

Mr. FALEOMAVAEKA. Mr. Secretary, was the Administration surprised by the outrage of some 168 countries of the world that protested when President Chirac decided in June to resume nuclear testing in the Pacific region? You keep saying that you regret this, you regret that, but it does not seem to adequately express how concerned we really are with the welfare of these people that live in the Pacific Region. With condemnations from all over the world—do you suppose that this is the reason why France decided that they had better rush their nuclear testing program before diplomatic relations get worse—not just here but even in Europe?

Mr. McNAMARA. Well, again, you are asking me to express an opinion and the reasons behind an action by another government, the Government of France. I would refrain from doing that. I think some of the considerations that undoubtedly must have played a role and therefore been a factor—but I am not sure how the Gov-

ernment of France evaluated them—would be such considerations as domestic protest, international protest, and the position of the United States, which was that we regretted the testing, that we thought it should be ended and that we felt a continuation of the nuclear testing moratorium by all of the nuclear powers was the best course of action.

I think as a democratic state and a democratic nation that responds to such pressures, all of these must have been factors; but I would leave it to the French Government to explain its own reasons for why it did what it did.

Mr. FALEOMAVAEGA. So we are now in close cooperation with the French Government? This is the same government that kicked the United States out of France when it decided to pull out of NATO. How much trust could we really put in a country that later, for whatever reasons, refused to cooperate with neighbors on the security problems that we had in Europe during the cold war? What makes you think that France is not going to pull out the rug from beneath us again over security concerns in the Pacific Region? Here we are playing footsie with the French now, but what makes you think that they are going to continue cooperating with us on other issues that affect not only our security but certainly security for the region as well as throughout the world?

Mr. McNAMARA. I think the reason that I feel that France will continue to cooperate with us on our security is that for the last 40 years it has been a close ally and partner of the United States, bi-laterally and in the NATO alliance. France—I would take exception—did not kick the United States out of France. Indeed, I was in France at the time that the NATO forces were moved out of France. France at no time removed itself from the NATO alliance. It was still a cooperating partner in that alliance. It simply separated itself from the military command structure of the NATO alliance for reasons that were fully explained to us.

While we regretted at the time that that was done by the French Government, nonetheless we were able to continue a very close and cooperative association with France throughout the period since the end of the second World War. Indeed, throughout the 19th and 20th centuries, 200 years or more, they have been a close ally of the United States. I expect that they will continue to be one.

They have opinions, attitudes, and policies that sometimes are at variance with that of the United States, but that is true of all allies. That does not mean that we therefore should distrust France. Rather I would think that the practices of the last 40 years have made the relationship between France and the United States that much better.

Mr. FALEOMAVAEGA. Is it true, Mr. Secretary—correct my history—that President deGaulle at one time demanded that U.S. forces be taken out of France in 2 months, and our response to his request was "Does that also include the 10,000 American soldiers who are buried there in France while liberating them from Nazi Germany in World War II?"

Mr. McNAMARA. As I said, I was in France at the time the NATO forces were asked to leave French territory unless they were under French command, and because the command structure in NATO was not structured the way the French wished to see it, the NATO

forces left France. I am not familiar with the comment. I have seen it quoted but I cannot verify that it was or was not.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman.

Mr. BEREUTER. You are welcome. Thank you very much.

Secretary McNamara, thank you very much for your testimony today and your responses to our questions. I would like an opportunity for members of this subcommittee to have a chance to send written questions. There is an emergency conference meeting for the Republican party at this point, or we would have members here probably from our side and probably some from the Democratic side as well. Thank you very much for your testimony.

Mr. McNAMARA. Thank you, Mr. Chairman.

Mr. BEREUTER. I would like to call the second panel to the table. I think they are approaching it now.

I have already introduced with very brief biographical materials the three witnesses on the second panel. I think we will proceed in the order that they are listed. That would mean our first witness in the second panel would be the Honorable William Bodde, Jr., Senior Advisor, Pacific Basin Economic Counsel.

Ambassador Bodde, it is nice to see you once again. It has not been long since you were before this subcommittee on a different subject, I think just last week.

Welcome to all three of you. Your entire statements will be made a part of the record. You may proceed. Take 5, 6, 7 minutes to read or summarize your remarks. I know that in the case of the material from Greenpeace, it is very extensive, so I particularly will need your summary, Mr. Handler.

Ambassador Bodde, please proceed.

#### **STATEMENT OF HON. WILLIAM BODDE, JR., SENIOR ADVISOR, PACIFIC BASIN ECONOMIC COUNCIL**

Mr. BODDE. Thank you, Mr. Chairman. I am delighted to be back again and have the opportunity to appear before the subcommittee.

As someone who has spent 30 some odd years as a diplomat looking for balanced positions, I find it very comfortable to be sitting between Greenpeace and the Heritage Foundation.

Mr. FALEOMAVAEGA. Will the chairman yield? I also would like to offer my personal welcome to Ambassador Bodde whom I certainly respect tremendously over the years that I have had the opportunities of working with him closely on Pacific issues. I want to personally welcome you to our committee here this afternoon.

Mr. BODDE. Thank you, Mr. Faleomavaega.

I would like to make just a few points. You have my statement and I would be happy to answer any questions. Watching my old colleague, Tom McNamara, talk about French-U.S. relations, I was once in charge of French-U.S. relations so I know, that in one way they were always very predictable. If you could figure out where French interests were, that is where their policy was. They did not let sentiment or some of the things that we sometimes let get in the way.

But I would like to talk a bit about the history and background of nuclear testing in the Pacific before I talk about my position and in a sense, in a way, speak from the Pacific Islanders' perspective. Although I am obviously not a Pacific Islander, I have spent a lot

of time with them. Of course, having been an ambassador to the Republic of the Marshall Islands, I am particularly aware of the heritage we have from our nuclear testing there.

That is what I want to talk about, and that is one of the reasons I think that you have to look at a nuclear-free zone in the Pacific differently than you would look at other nuclear-free zones. Obviously, I would not want to put at risk the U.S. nuclear deterrent or damage our military posture. But the fact is that we tested so many atom bombs there and the Pacific Islanders have suffered tremendously; not just from the testing—and I will talk about that in a moment—but almost as much from the money we have poured in there to make good for the testing. The social and psychological dislocation and the creation of a dependency mentality, have been very, very destructive.

But let me just start out by making five points about the Pacific Islands and nuclear testing. The decisions to test nuclear weapons were made by the colonial powers, with the Islanders having no say in the matter. The testing took place in the Pacific to avoid putting the colonial powers own population or land at risk. The people and the land that suffered the adverse health and environmental effects of nuclear testing were overwhelmingly Pacific Islanders, although there were Americans that suffered, too. The 24 American servicemen that were on Enewetak during the Bravo test and so on.

The Pacific Islanders that were never pro-Soviet, partly because of the missionary influence in the Pacific Islands which is very strong. However, they never felt themselves part of the cold war rivalry and certainly not to the degree that they thought they should bear the major burden of nuclear testing. Finally, nuclear testing in their homelands brought little economic development. The money that testing brought in either before or after the tests did not build infrastructure or help these countries, when they became independent, to become functioning, let alone self-reliant economies.

Now, if you look at the testing that took place out there, 66 of the American tests took place in Bikini and Enewetak Atolls. Twenty-four nuclear devices were detonated on Christmas Island in the Line Islands. The British did 12 tests off the coast of Australia and in Australia and they did six more on Christmas Island. The Marshall Islands were part of the trust territory of the Pacific Islands, TTPI, which was a U.N. trust territory administered by the United States. Christmas Island is in the Line Islands and at that time was administered by the United Kingdom. However, at that time, the United States also claimed some of the islands in the Line Islands, including Christmas Island. In fact, it was not until the 1980's that we renounced those claims. We relinquished those claims in treaties that I negotiated with Pacific Islands nations. Then, of course, the French began testing in 1966 and they continue to this day.

Now, the idea that the testing was done to avoid exposing our own population was tragically reinforced during the second hydrogen bomb test, Bravo, over Bikini Atoll on March 1, 1966. In previous tests, Marshallese living on two nearby atolls, Rongelap, where the 24 Americans were, and Utriks were evacuated. There

obviously were no people on Bikini or on Enewetak. They would not have survived the tests. But on Rongelap and Utrik, the people were usually evacuated when we conducted a test. But they were not this time and contrary to predictions, the wind shifted or the wind was different than predicted and they suffered considerable fallout.

Now, we have monitored, that is, the Brookhaven Laboratory has monitored the effects of the nuclear testing since 1956. Although there is debate about the generic effects of nuclear testing that continues, Brookhaven does acknowledge two deaths directly related to the tests and there have been a number of thyroid and other health problems in the Marshalls that seem to be related to them.

Finally, the Japanese tuna boat, the *Lucky Dragon*, was caught in that Bravo fallout. One fisherman died, 23 others suffered radiation sickness, and the United States paid \$2 million in compensation.

Now, as I say, it is no surprise the Pacific Islanders as soon as they became independent, began pressing for a nuclear-free zone and a halt to testing because they have been the victims of nuclear testing. As I said earlier, the testing aside and whatever the negative health and physical effects may have been in the region, I would argue, having lived in the Marshall Islands, that the influx of millions and millions of dollars in compensation for testing, or as part of the Compact of Free Association, or as rent for Kwajalein has just been more money than they could absorb practically. Very little has gone into infrastructure in a country that still suffers tremendous social and health problems. So it is easy to see why the Pacific Islanders feel very strongly about testing and why they want to see the SPNFZ signed by all relevant parties.

As far as the United States is concerned, back in the Reagan administration, I supported the position of the U.S. Government, both publicly and privately, that we should *not* sign the SPNFZ. I did so because we were still in the midst of the cold war and we still had many things going with the French and did not want to damage relations with them. The U.S.-French relationship is a very complicated one and an interesting one, but in any event I thought there were legitimate reasons at that time for us *not* to sign the agreement.

I think the situation has changed radically since then. The cold war is over. It is not that the nuclear weapons that are still in Russia or in the successor states are not a threat or that a rogue state may not obtain nuclear weapons, but this situation does not require the same kind of nuclear testing in the Pacific by us to maintain our deterrent and military posture and to see that nuclear weapons are not used against us.

Finally, as far as France is concerned, dealing with the French and dealing even personally with Mr. Chirac, I think it has been very important that the world has made a strong statement against the testing. I do not think you are going to stop the French from finishing these series of tests. They are going to finish those tests, and I think the important thing is to get them, once they finish, to swear that they will not do it again or to agree not to do it again and to sign SPNFZ.

Thank you very much.

[The prepared statement of Mr. Bodde appears in the appendix.]

Mr. BEREUTER. Thank you very much, Ambassador.

Now we would like to call upon Mr. Handler from Greenpeace International. Welcome. We are pleased to have your testimony. You may proceed as you wish.

**STATEMENT OF MR. JOSHUA HANDLER, RESEARCH COORDINATOR, DISARMAMENT CAMPAIGN, GREENPEACE INTERNATIONAL**

Mr. HANDLER. It is a pleasure to be here, Mr. Chairman. First I want to apologize for my colleague, Tom Clements, who was unable to be here due to a rather serious respiratory illness. So I will do my best to stand in in his place. I did work with him on the testimony. Again, thanks for inviting us to be here. It is really a great pleasure to be able to give our views on these two very important issues.

I would like to just first briefly summarize our testimony and then discuss some of our key conclusions and concerns. In our testimony, we cover the origin of Greenpeace. It is not very well known that we started as an organization protesting U.S. nuclear testing in the Pacific, the Aleutian Island chains. We then discuss the history of protests against French testing in the Pacific. As it has been discussed earlier, it has been rather substantial since the late 1960's and has been continuing ever since.

I go over the current protests against French nuclear tests. Again, this has been touched on earlier. There have been rather massive and worldwide opposition expressed in the Pacific, Latin America, Europe, and the United States and Russia. As we discussed earlier in the case, the United States has expressed regrets.

We spend some time summarizing the various studies about the environmental effects of testing, and our conclusion when we review this literature is that all the studies that have been done that we are aware of, however limited in scope in terms of access to the island, have concluded there is or can be environmental damage from the testing. Some of the other topics we touch on are the lack of justifications for the tests, obviously the implications of the South Pacific Nuclear Free Zone. One of our other concerns is the overflight of U.S. territory by French military aircraft, something that was discussed earlier, and how the SPNFZ and testing issue relates to the Nuclear Non-Proliferation Treaty.

Some of our key conclusions and concerns are as follows. Aside from our obvious environmental concerns, we are primarily concerned about achieving a good, solid, unambiguous, zero yield Comprehensive Test Ban Treaty in 1996, and that all countries fulfill their commitments to the Nuclear Non-Proliferation Treaty, particularly in the case of the nuclear weapons states, through Article VI of the treaty, which requires nuclear disarmament.

In regards to SPNFZ, it is our opinion that the United States should sign right now. There is no reason for the United States to wait until 1996 to sign the protocols. To do so now would be an important step and show the United States is willing to display leadership on this important question when it comes to its obligations under the Nuclear Non-Proliferation Treaty, and is sensitive to the concerns of the people in the region.

Our opinion on French nuclear testing is probably quite obvious also. We think French nuclear testing should halt right now. France has conducted enough nuclear weapons tests. One indication of this, for example, is the ratio of tests to its stockpile. It has the highest of the nuclear powers, one test for every 2.5 bombs in the stockpile. The U.S. has about one test for every eight.

In any event, in our opinion France is supposed to be figuring out along with the other nuclear powers ways to further reduce its nuclear arsenal under its commitments to the Nuclear Non-Proliferation Treaty, not ways to keep it indefinitely. In this regard, we are quite concerned about the recent Department of Energy announcement that the United States plans to conduct six underground tests for nuclear weapons purposes which will use fissile materials, including plutonium, and these will be conducted at the Nevada test site, two in fiscal year 1996 and four in fiscal year 1997. We view the timing and nature of these tests as very poor in terms of helping to achieve a CTBT next year and also, like France, shows a lack of commitment to the U.S. Nuclear Non-Proliferation Treaty obligations. I will submit for the record a letter we sent to Secretary Leary about our concerns yesterday.

As I stated earlier, we are very concerned about the United States allowing overflights of material for the French nuclear testing program. I guess I share the sentiments at least expressed in your question, Mr. Chairman, that if France felt for its foreign policy concerns in the Mediterranean it was inappropriate for them to allow our F-111's to overfly France to bomb Libya, regardless of what we may think about that operation, it is certainly appropriate for us to say to France, in terms of our foreign policy concerns in the South Pacific, we should not allow such overflights to take place.

We also feel the State Department testimony earlier was inadequate. It still smacks a little bit of looking the other way for a matter of convenience.

We feel the best way to strengthen nuclear weapon-free zones and show a commitment to the Nuclear Non-Proliferation Treaty is obviously further and progressive elimination of nuclear weapons, particularly those that pose challenges to the nuclear weapon-free zones regimes. These would include tactical naval nuclear weapons; eliminating them would obviously obviate this transit question. The United States, as you may recall from the Nuclear Policy Review that was finished in September 1994, will only retain 350 sea-launch cruise missiles for redeployment aboard submarines. The whole question of surface ships as to nuclear weapons is obviated. Air delivered nuclear weapons, we would retain only 480 in Europe, and strategic weapons at sea. Those might be worth considering for the next round of strategic negotiations between Russia and the United States, if they were to transpire.

Finally, in this regard, one of our major concerns in terms of U.S. developments is that the United States is showing a disturbing trend toward developing a nuclear strategy that for its counter-proliferation purposes could possibly involve the use of nuclear weapons. We view this as turning the logic of the Nuclear Non-Proliferation Treaty on its head. Rather than all countries seeking to eliminate their nuclear weapons, we are now thinking of new missions

for U.S. nuclear forces to target possible proliferator countries. This is a dangerous development that could adversely affect the Nuclear Non-Proliferation Treaty regime.

Thank you very much.

[The prepared statement of Mr. Handler appears in the appendix.]

Mr. BEREUTER. Thank you very much, Mr. Handler.

Now, our next and final witness is Mr. Richard Fisher, Senior Policy Analyst with the Asian Studies Center at the Heritage Foundation.

Mr. Fisher, welcome. We are pleased to have your testimony.

**STATEMENT OF MR. RICHARD FISHER, SENIOR POLICY ANALYST, HERITAGE FOUNDATION—ASIAN STUDIES CENTER**

Mr. FISHER. Thank you, Mr. Chairman.

Distinguished members of this subcommittee, I thank you very much for the privilege of appearing here today to offer what may be a decided minority opinion on the recent decision by the Clinton administration to sign protocols to the Treaty of Rarotonga and on issues pertaining to French nuclear testing. I would first like to address the issues surrounding the SPNFZ and then proceed to some brief comments on French testing.

Mr. Chairman, for about a decade, Washington has had the option to sign protocols to the Treaty of Rarotonga. Two successive administrations under Presidents Ronald Reagan and George Bush opted not to sign those protocols but did consistently state that their activities were not inconsistent with the treaty. When the Clinton administration signs these protocols, the Senate will then have to exercise its Constitutional prerogative over whether to ratify those protocols.

It is my contention today that it probably is not time to sign those protocols and I wonder out loud and maybe even doubt whether the Administration has subjected its decision to sign the protocols to as rigorous a review as did the previous two administrations. I welcome the Administration's announcement that it is going to issue some form of statement when it signs the protocols, and it will be very interesting to see how that statement may respond to the concerns that I also have.

Before proceeding to review the reservations of previous administrations, I would like to ascertain whether conditions have evolved sufficiently to satisfy whether we can today proceed to sign these protocols. Ambassador Bodde mentioned that in the mid-1980's when he supported the Administration's decision not to sign the protocols that there was something of a cold war competition in the South Pacific. Not much has been written about it, but I can tell you from my previous study that it was quite vital. That there was real competition there. The Soviets were trying to undermine our interests.

In addition, we also faced at the same time a very real problem with our relations with New Zealand, specifically the anti-nuclear policies that forced the United States to suspend military alliance obligations and then military cooperation at a very sensitive time, a time when the Soviets and Europe were promoting peace movements that were also designed to divide the Atlantic alliance.

Today, Mr. Chairman, I would like to state that we also face a very problematic security environment in Asia. Our nuclear deterrent, conventional and nuclear, continues to provide a foundation for peace in Asia, however we are challenged by questions concerning China's growing military and economic power. Nuclear terror and proliferation, I believe, is a larger, not a lesser threat in Asia. China's virtual nuclear threat against Taiwan in July resulted in open public consideration in Taipei over whether to build their own nuclear weapons. We have proliferation concerns, real proliferation concerns, on the Korean Peninsula as well.

I would like now to review the objections that the Reagan administration raised in 1987 when it decided not to sign the protocols and to then ask questions whether those concerns have been satisfied today. In 1987 before this very subcommittee, Rear Admiral Edward Baker of the Pentagon's International Security office stated while signing the protocols to SPNFZ would have "increased our short-term popularity, it would not have furthered the long-term security of the region or advanced the cause of world peace."

One question that Baker's testimony raises for today is whether the United States can afford to alter the ambiguity of its nuclear deterrent. Baker stated in 1987, "Deterrence is established not on what we do, but what we can do. When we unilaterally foreclose potential responses to an adversary's challenge, it emboldens our adversaries and increases the risk of war." Baker was concerned, I believe with the wider, as opposed to the local, consequences of Protocol 2 of the SPNFZ, which states, "Each party undertakes not to use or threaten to use any nuclear explosive device," against parties of the treaty.

Now, nobody clearly now or in the future ever wants to threaten anybody in the South Pacific, but this point should not be allowed to blind U.S. policymakers to the wider concerns that if the United States submits to legal restraints on its nuclear strategy in one instance, having set that precedent, we would be hard pressed not to do so in the future. That this ambiguity remains central to the effectiveness of the U.S. deterrent was most recently demonstrated in the Gulf War when because we kept our nuclear posture ambiguous, Saddam Hussein was prevented from using weapons of mass destruction, chemical weapons, against our forces.

Supporters of the protocol say often that the United States has already accepted the limitations of Protocol 2 inasmuch as we agreed to similar restrictions in Protocol 2 of the 1967 Treaty of Tlateloco, the Latin American Nuclear Free Zone. But I would like to point out that this is not exactly the case. President Nixon issued a special proclamation that qualified U.S. adherence to this protocol in case of "an armed attack by a contracting party in which it was assisted by a nuclear weapons state". President Nixon, I believe, was seeking to preserve the essential ambiguity of the U.S. nuclear deterrent, and given the great controversy and at times hysteria that surrounds nuclear issues in the South Pacific, I wonder if a similar American proclamation in regards to the Treaty of Rarotonga would not be considered by those who sign the treaty at the very least to be politically incorrect.

A second question that Baker's testimony raises for today is whether the United States should be limiting its military options

within the zone of the treaty. Protocol 1 would prohibit the United States from stationing nuclear weapons on American territories in the zone. This treaty defines stationing very widely as implantation, placement, transportation on land or in water, stockpiling, storage, installation, and deployment.

In 1987, Admiral Baker said, "Protocol 1 would restrain the exercise of U.S. defense authority in and for U.S. territory." I am sure that we all hope and pray there will never be a future requirement to station American nuclear weapons in the zone; however, we should not forget that in our recent past in World War II, the South Pacific was of critical strategic important for the United States and a major battle ground. I would like to ask whether it would be fair to tell the future commander of an American aircraft carrier that may be fatally damaged by Chinese torpedoes near the combat zone and near American Samoa whether we should tell that commander, "You do not have the option to off-load your nuclear weapons because it is prohibited by the Treaty of Rarotonga, and oh, by the way, do not let your ship sink either because nuclear dumping is prohibited as well."

This question becomes far more serious if other territories decide to define the zone. Having allowed American Samoa to join the zone, could we really argue against the Marshall Islands joining as well at some point in the future, and if they did, would that affect our vital strategic missile testing and missile defense testing activities on Kwajalein Island? Article III of the SPNFZ treaty states, "That the parties not take any action to assist or encourage the manufacture or acquisition of any nuclear device by any state." As strategic missiles are an essential part of our nuclear arsenal, this Article could be construed as restricting U.S. missile testing.

The third question raised by Admiral Baker's testimony was the possibility that the treaty could be exploited by future adversaries. The Soviets in 1986, I believe, very quickly signed Protocols 2 and 3 of the SPNFZ, but they did so issuing a statement that any country accepting U.S. naval visits under our "neither confirm nor deny" policy would not be covered by the Soviet pledge in Protocol 2. Admiral Baker concluded then that this was "The Soviet signature of this nuclear-free zone agreement has therefore become in reality a disguised form of nuclear blackmail to force island leaders away from the western security umbrella."

The question I would have in regards to this point is what about China's future attitude toward the zone? China also quickly signed the treaty protocols, I believe, in 1986 or 1987. China today proliferates nuclear-capable missiles to Pakistan, nuclear weapons technology to Iran, and threatens Taiwan with nuclear-capable missiles. I would posit that it is unwise to expect that China will forever respect the zone or refrain from using the zone to blackmail regional leaders if that advances China's interests.

Mr. Chairman, I conclude that if the Clinton administration or supporters of the United States adhering to these protocols cannot satisfy the concerns that I have raised that in conclusion it is not in the interest of the United States to sign the protocols right now.

On the issue of French nuclear testing, I would just make three brief points. One, I believe that it is clearly in the interest of the United States that France maintain a viable and independent nu-

clear deterrent. One of the dividends of the end of the cold war is that we are now able to pass the main responsibility for security in Europe to the Europeans. It would be highly inconsistent then to pursue policies that would undermine their ability to do so. France, in my estimation, may become the dominant nuclear power in Western Europe. France and Britain have just signed an agreement to coordinate their nuclear policies and doctrines. As our European allies' nuclear forces will deter potential trouble, whether it comes from a dis-stabilized Russia or potentially nuclear armed terrorist states in the Middle East—Iran, Algeria—I believe that America's nuclear deterrent capability is enhanced by a similar deterrent held by our NATO allies.

The second point is that France tests its nuclear weapons for the same reason we do, to maintain the safety and reliability of our nuclear deterrent. Were this to be questioned, especially for the United States, I believe our security would be at risk.

Third, I would like to invite the subcommittee to benefit from a fuller range of scientific analysis and debate concerning the environmental impact of French nuclear testing. There are very serious scientists with apparent little vested interest in this debate who have stated that based on their analysis of the French testing area, the effect of French activities on the environment is perhaps not as great as anti-nuclear activists would have us believe.

Just very quickly and in closing—a recent Australian PBC science program called “Quantum” that aired on August 23, it quotes a New Zealand scientist, Dr. Murray Matthews of the New Zealand National Radiation Laboratory, and he states, “If all the material presently in Moruroa...”—meaning nuclear material left over from underground tests—“...were dissolved into a lagoon that size...”—the size of the lagoon of Moruroa—“...and if it were fresh water, one could drink about 300 liters of that before one would reach an estimated annual level of intake.”

Mr. Chairman, again in closing I would simply suggest that the subcommittee would benefit from a full range of analysis of the impact of French testing, and for the benefit of the subcommittee, I would submit to the record the full transcript of the ABC television program’s interview with a variety of Australian and New Zealand nuclear scientists on this matter.

[The prepared statement of Mr. Fisher and transcript of the television interview appear in the appendix.]

Mr. BEREUTER. Thank you very much, Mr. Fisher. The material that you are submitting plus material that Mr. Handler referenced will be made a part of the hearing record in its entirety.

Mr. FALEOMAVAEGA. Would the Chairman yield?

Mr. BEREUTER. I will yield.

Mr. FALEOMAVAEGA. I would also like to request unanimous consent to allow Mr. Fisher to submit Admiral Baker’s statement that he has quoted extensively in his statement in 1987 to be made a part of the record.

Mr. FISHER. I have it today, Congressman, and would be pleased to do so.

Mr. FALEOMAVAEGA. Thank you.

Mr. BEREUTER. That will also be made a part of the record.

Mr. Faleomavaega, I will call on you for questions first.

[The statement of Adm. Baker appears in the appendix.]

Mr. FALEOMAVAEGA. Thank you.

Ambassador Bodde, I want to thank you for giving us a historical perspective regarding nuclear testing in the Pacific that you have gained as Ambassador to the Republic of the Marshall Islands. I think you must have found it a very unique experience in having to deal with the people living on those islands.

I am bothered by the fact that perhaps we have not taken this into historical perspective and the fact that these people who lived in Micronesia were subjected to colonialism in its ugliest form. There were the British, the Dutch, the Japanese. You name it, these people were subjected to colonialism in the worst way. After World War II, as you know, we unilaterally declared this place as a strategic trust. We never asked the Marshall Islands whether or not they wanted to join the United States or to be made part of America after World War II. Perhaps this too was a form of colonialism.

I think it was well stated when our illustrious Secretary of State, then Henry Kissinger, was asked about the concerns of the Micronesians and he said, "Well, there are only 90,000 of them. Who gives a damn?" This is the kind of mentality that bothers me, Mr. Ambassador. Yes, we were in the middle of the cold war and there was a threat, we can all understand that. At the same time, however, you will find that the American people are outraged with what we have now discovered in terms of Americans being used as experimental guinea pigs for our own nuclear testing program. As a former colony of the British Empire, we should appreciate what these island people have been subjected to for all these years. I thank you for citing those concerns.

I would like to ask the panel, and especially Ambassador Bodde, are you aware that the highest incidence of ciguatera? poisoning of reefs in the island groups has been in the Marshalls and French Polynesia? Are you aware of that fact?

Mr. BODDE. I am sorry. I did not hear.

Mr. FALEOMAVAEGA. The two highest areas of ciguatera fish poisoning in the South Pacific occur in reefs found in the islands of the Marshalls and French Polynesia. Now, why do you suppose this is the case?

Mr. BODDE. Well, let me say the scientific arguments about what the testing has caused, what it causes for the future is open to all sorts of interpretation. There is no doubt about it. This program Mr. Fisher talked about. There are others who have claimed much more direct and negative health effects from the tests. I know one thing as a fisherman in the Pacific Islands, and I have done a lot of it, that in one group of islands or atolls you can eat the barracuda and then the next one you die if you eat them. So it is very hard to figure out what causes what out there.

But I would say this. If you take a historical perspective, a) if you look at the blood and treasure that the United States and many islanders who were caught in the middle of that in the second World War shed and b) the need to build a credible nuclear deterrent, than the testing that we did, may not be justifiable to a Marshallese, but it is very understandable to a strategic thinker. I do not think there is any doubt about that.

The fact that it was done out there because we did not want to expose our own people—

Mr. FALEOMAVAEGA. Of course.

Mr. BODDE [continuing]. is morally reprehensible.

Mr. FALEOMAVAEGA. Mr. Ambassador, that is the point I wanted to make.

Mr. BODDE. And I think that is a good point. But the real question I think we are faced with now is, are the questions that Admiral Baker raised in 1987 still relevant. I would argue that the risk we take by signing the treaty now is minimal compared to what we gain with the Pacific Islands from the Non-Proliferation Treaty, and hopefully from a Comprehensive Test Ban. It is worth that risk. It is not such a great risk, and it does not make our nuclear threat any less ambiguous. The submarines are out there, wherever they are. The missiles are there. The fact is, you are not putting nuclear missile launchers in Kwajalein. You cannot do that under the treaty. But everything else you can do.

Mr. FALEOMAVAEGA. Right. Mr. Ambassador, I—

Mr. BODDE. You can test your missiles there, you can do everything else you want to do in Kwajalein.

Mr. FALEOMAVAEGA. I do not think there is any disagreement on that point, and certainly not on one that would compromise the security of our country in this region. But I do not know if our administration policymakers and the Members of the Congress have some sense of appreciation why these island countries, not just New Zealand and Australia, are so outraged. The fact is, there is nothing more important to the lives of these people who depend on the marine environment, and I suppose if the roles were reversed—where these dangers and hazards of nuclear testing were right under the nose of American citizens, we might think more carefully. Do you suppose our government may want to change our methods of going about and detecting the viability of our nuclear capabilities?

This is what really gets to the bottom line of the situation, and I will say this honestly to Mr. Fisher, that we are pursuing policies of pressing for human rights all over the world and democracies and freedom and justice, but what rights have we given to the Tahitians and how they feel about nuclear tests conducted right under their nose? This is the crux that really rubs me in a very emotional way, the fact that we don't have a sense of appreciation for the danger facing Pacific people from nuclear testing.

The fact that the leaders of French Polynesia unanimously petitioned the French Government to stop nuclear tests that are harmful to their environment, yet President deGaulle just said, "To heck with you guys. Just shut up. We are going to do the tests whether you like it or not." Somehow it rubs me wrong when you see that we did the same thing to the Marshallese. We did not ask for their permission, but we just went ahead in the name of national security. And I want to ask Mr. Fisher, in the same way are we not asking the Germans and Japanese to sacrifice their security by forgoing the nuclear option?

Mr. FISHER. I am not sure what you are suggesting, Congressman.

Mr. FALEOMAVAEGA. Well, if I were a German living in Bonn or Munich and I knew that President Chirac held the nuclear trigger in Europe, do you think that I would be very comfortable trusting the French to come to my rescue? That perhaps not having a nuclear capability would compromise my security?

Mr. FISHER. Well—

Mr. FALEOMAVAEGA. Here we have two of the most economically powerful nations in the world without the benefit of nuclear capability that France, Britain and the United States possess.

Mr. FISHER. Again, Congressman, I am not sure what you are suggesting. Are you perhaps suggesting that Japan and Germany should have nuclear weapons?

Mr. FALEOMAVAEGA. Why not? It is in their national interest, if they feel that their security is compromised. Why should they depend on others? That is why the Chinese are conducting their nuclear tests, and I would like to say to Mr. Fisher that you seemed to have painted the Chinese as an adversary rather than as a possible friend out there in the Asia-Pacific region.

Mr. FISHER. Well, Congressman, if I could respond to some of those points.

Mr. FALEOMAVAEGA. Please.

Mr. FISHER. Thank you very much. I certainly hope that China would develop into a fully cooperative member of the Asia-Pacific region, a country that can benefit as much as contribute to our prosperity and our development. However, I simply wished to point out to the subcommittee today that many Chinese actions in the recent past are at variance with this hope. Specifically, China's extremely provocative virtual nuclear test north of Taiwan in July when they launched six nuclear-capable missiles to an area about 100 miles north of the island of Taiwan, an action on the part of a communist country against a democracy that as far as I know has not been undertaken since the 1963 Cuban missile crisis.

Mr. BEREUTER. Mr. Fisher, you meant a missile test, right?

Mr. FISHER. Missile test. Yes. Well, inasmuch as the Taiwanese, Congressman, viewed this as a nuclear threat and inasmuch as President Lee Teng-hui and one of the main opposition leaders of the Democratic Progressive Party debated in a Legislative Yuan days after these tests whether it was advisable for Taiwan to obtain its own nuclear deterrent points to a propensity on the part of the leadership in Beijing to engage in a reckless action that not only threatened a democracy with a potential nuclear weapon, but then threatened to unleash the even greater danger of wider nuclear proliferation in Asia. So I would submit that yes, we very much need to be concerned about China.

Now, in regards to comments about Japan, Congressman, there are many serious people in Washington who would agree that Japan should also have nuclear weapons. I cite my conservative colleagues at the Cato Institute as promoters of this path. I, however, would offer a caution inasmuch as if Japan were to obtain nuclear weapons, that would very seriously impact on the overwhelming public support that our alliance with Japan has today in the United States, and were that to follow, were our alliance with Japan to fall apart over the issue of Japanese nuclear weapons then wider proliferation in Asia would be the inevitable result.

Mr. BEREUTER. Thank you. I am afraid it will be necessary for us to recess for about 12 to 15 minutes maximum.

Mr. FALEOMAVAEGA. May I pursue my questions, Mr. Chairman, if it is all right?

Mr. BEREUTER. You may. I will trust your judgment.

Mr. FALEOMAVAEGA. Will you be voting?

Mr. BEREUTER. I will be returning for my own questions.

Mr. FALEOMAVAEGA. All right. If I may, I would appreciate it. Thank you.

Have any of you gentlemen been to Moruroa Atoll?

Mr. HANDLER. I am not one of the people that has had the pleasure to make that trip in the last few months.

Mr. FALEOMAVAEGA. Well, I have, and I want to say that in fairness to the French Government, they did invite me to visit the facilities during the testing moratorium period. I also want to note for the record that despite their claims about the safety of the atoll, there were portions of the atoll that they absolutely refused to comment on regarding contamination.

I wanted to show my good friends here, this is what Moruroa Atoll looks like from above with a nuclear detonation. Apparently it was taken from one of the documents that the French Government had prepared in 1980. This gives you an idea of the concerns that the Pacific people have had with the nuclear testing program that the French Government has conducted.

Let me just share this with you. For the last 20 years, the French Government has exploded over 165 nuclear bombs in and outside of this atoll. Now, Mr. Fisher, you said that it is perfectly OK environmentally? As far as the scientific studies are concerned, the environment and everything over there is fine—

Mr. FISHER. Congressman, I—

Mr. FALEOMAVAEGA [continuing]. at least from the sources you have quoted saying that it is perfectly all right.

Mr. FISHER. Congressman, I would just like to clarify myself. What I said was that there are serious scientists who submit that that is essentially the case, and that these scientists were quoted at length in a television program, the transcript of which I have submitted for the record. I am not able to speak authoritatively to their assertions. I simply offer their perspective for the benefit of the subcommittee in hopes to prompt further questions in their direction.

Mr. FALEOMAVAEGA. To your knowledge, Mr. Fisher, have any of our top nuclear scientists ever been invited to make a study of the Moruroa Atoll and its environmental impact?

Mr. FISHER. I have no knowledge of that, Congressman, but I do know that the International Atomic Energy Agency, according again to this program, did conduct an examination of the atoll and the results—if you would like for me to read some of the responses to that from the transcript, I would be pleased to do that.

Mr. FALEOMAVAEGA. Go ahead. That is all right.

Mr. FISHER. I will have to find it here.

Mr. FALEOMAVAEGA. Could you also state how many days the IAEA team stayed on Moruroa for this study?

Mr. FISHER. No, Congressman, I am not able to do that.

Mr. FALEOMAVAEGA. So it does not even say the length of this study? Let me share with you, Mr. Fisher, of the three or four studies that I have had the opportunity of reading, they were highly restricted in terms of where and how they were to conduct the study, and they were no more than three or 4 days. That was it, you were out. Then in every instance, including Commander Cousteau's study, they all requested follow-up studies but were denied access to these areas.

I just wanted to share that information with Mr. Fisher. I note that you quoted studies of scientists from New Zealand, but there is no other country in the world that knows more about nuclear problems than the United States and our scientists. New Zealand does not have a nuclear testing program. I would think that somebody from our country should be requested to go down there and join a study mission.

This is the concern that the island nations have about the environmental impact from nuclear testing. While we conducted only 66 nuclear detonations in Micronesia, the French have done over 200 in the region.

Mr. FISHER. Congressman, I would agree with that concern, and if the International Atomic Energy Agency in a future survey of the atoll does invite American participation, I would associate with the remarks of Mr. McNamara in wholeheartedly approving of that.

But I would just like to read the relevant passage that I have mentioned.

The announcer—this is sort of taken slightly out of context, but the announcer says, "There is a problem. The French claim that the chamber is sealed but cools quickly. The only way it could cool quickly is if the chamber is so cracked as it allows cooling water to get in and out." Then it quotes Professor Michael O'Sullivan, "Now we have a large fractured chamber, and the water can get down into the bomb site and back up again."

Then the announcer proceeds, "Professor O'Sullivan concluded that radioactivity must, in time, leak out. Is it leaking now? The latest evidence we can now reveal strongly supports France's claim that the underground testing has not poisoned the marine environment. There are samples of food stuffs collected on Moruroa by the International Atomic Energy Agency, fish from the lagoon, spiny lobster, mollusks, and coconut milk. The Australian Radiation Laboratory was one of eight around the world given samples of the same organisms collected at the same time. The analysis shows that there is radioactivity in the samples but the levels are very low. The results are credible because all eight labs concur. Among them was New Zealand's National Radiation Laboratory."

Then it quotes Dr. Andrew McEwen, "The levels in these fish did show traces of which one would expect. The levels were fairly consistent with what one would expect from global fallout, but there is certainly no evidence of significant leakage of any type." I will not belabor it any further.

Mr. FALEOMAVAEGA. That is fine.

Mr. Handler, would you care to comment on Mr. Fisher's—

Mr. HANDLER. I think it is referring—there is, as usual, a little bit of quoting from here and there of things that are of interest to people. As I said, we went through nine of the studies that have

been done over the years, and in terms of this IAEA reference from the 1991 report, the IAEA concluded that "Radiation could be coming from some source in addition to global fallout. It refused to make the link between the test site, and said the plutonium came from unknown sources." This is because they showed elevated levels of plutonium-239 and plutonium-240 in some of the samples gathered.

In terms of the study referred to here, it is my understanding there were complaints again on this question of access. My reference to it is this—I believe it is the same study in August 1995. "A panel of 20 Australian scientists was commissioned by the Australian environment minister to analyze the impact of testing on the atolls, complaining that access to information was limited. The scientists said most of the data released so far by the French was mostly irrelevant and inadequate. They concluded Moruroa had been physically damaged from the tests and that the worse case scenario, radio isotopes in the blast chambers, could reach the ocean in 25 to 50 years. Based in part on this study, environmental ministers from a number of South Pacific countries called on France to give full and unfettered access to the data."

I think the scientific debate is quite large and quite raging, but the indications we have so far is people should be worried.

Mr. FALEOMAVAEKA. Mr. Fisher.

Mr. FISHER. The scientists quoted in the program again, Congressman, stated that significant leakage may not occur for maybe perhaps 500 years.

Mr. FALEOMAVAEKA. To 1,000 years.

Mr. FISHER. Given qualifying their statements, of course, in the event of a mistake, a catastrophe in the course of a future test.

Mr. FALEOMAVAEKA. Mr. Bodde.

Mr. BODDE. Partly it seems to me, the question is where do we go from here. I mean, the French are going to complete their testing, Mr. Congressman. I do not think there is anybody that will convince them otherwise, so it seems to me that while I think there is legitimate concern as to what has happened to this atoll or what happens in the Pacific, in my remarks, I do not know if you have to read them, one thing I think people—Westerners like ourselves have a problem understanding is how Pacific Islanders view the ocean.

The ocean to us is viewed generally as a separation of land masses that up until the advent of the intercontinental ballistic missile and bombers protected you. It enhanced your security. In the Pacific, it is a web, it is a highway, it connects all of them so that they get very concerned about anything that takes place anywhere in the Pacific. I think this point is extremely important, but again, I think the real question is where do we go from here. Does the United States sign SPNFZ? Do we make sure we keep the pressure on the French to sign it? I think they are the really crucial questions.

Mr. FALEOMAVAEKA. Gentlemen, I know the chairman does have some questions that he wishes to raise with you. If it is all right, we will just continue the dialog.

Mr. Fisher, please do not get me wrong. I respect your comments and your views very highly. However, we have a fundamental dis-

agreement in terms of the provisions of SPNFZ and whether they compromise the security of our country. I respectfully disagree with you, as SPNFZ does not take away from our policy to neither deny nor confirm nuclear weapons on our vessels and aircraft, nor does it deny access to the sea lanes or in any way lessen our ability to be mobile to protect our security interests in the Pacific.

Mr. FISHER. Well, Congressman, I also am very thankful and respect your willingness to put up with my perhaps ancient perspectives—

Mr. FALEOMAVAEGA. Not at all.

Mr. FISHER [continuing]. and views. But my concerns may in fact be extreme and may be viewed as extreme and unrealistic, especially by our long and important friends in the South Pacific Region. But I would also very much stress, Congressman, and it is my concern that even previous administrations have not taken the time and the effort to explain and in a very detailed way, in an intimate way, why it is we have to rely, still, on nuclear weapons, why it is that nuclear deterrent helped us prevail in the cold war, and why it is today as many other countries look to proliferate and look to do so without any idea of subjecting themselves to civilized nuclear restraints such as START, NPT, that it is still imperative that the United States continue to maintain this deterrent posture.

As I stated in my testimony, I hope and pray that there is never again a set of circumstances that would force us to rely on our South Pacific friends and allies as we had to during World War II. However, I believe that history is moving so quickly and threats are able to materialize from unforeseen directions that it is important that we maintain the maximum flexibility for our armed services. It would be in my opinion highly undesirable for a future generation of political leaders in this country to tell our men and women who we expect to fight and possibly die that in some regions of the globe, they have to fight and die with one arm tied behind their back.

Mr. FALEOMAVAEGA. I could not agree with you more, Mr. Fisher. Thank you, Mr. Chairman.

Mr. BEREUTER. Thank you.

Mr. Fisher, are you opposed to the United States signing the Treaty of Rarotonga?

Mr. FISHER. At the current time, yes.

Mr. BEREUTER. If in fact the Administration does proceed as it announced it intends to proceed, are there any specific reservations that you at this point would suggest should be a part of our signature to the treaty?

Mr. FISHER. Well, I get the sense, and this is simply an educated guess, that the Administration is considering a statement of qualifications or reservations based on what Mr. McNamara told us earlier, quite probably, examining the model of President Nixon's proclamation in connection with Protocol 2 of the Latin American Nuclear Free Zone. I would certainly welcome and would like to see—I would be very interested in what the Administration's thoughts are in regards to such qualifications.

However, Congressman, I would also still, I think, be leery to sign onto these protocols if only because we do not have the level of engagement with the other major growing nuclear power in

Asia—China—that we have, as tenuous as it is, with Russia today. We have engaged Russia in three or five separate nuclear arms controls agreements whereas China consistently refuses to consider any such limitation, confidence building measure, access even to inspect their weapons, and I would certainly hope that before signing onto the protocols that we would have as much a level of confidence in China's willingness to abide by civilized—what I would say loosely civilized—modes of nuclear cooperation as we have long established with Russia.

Mr. FALEOMAVAEKA. Mr. Chairman, can I—

Mr. BEREUTER. I yield.

Mr. FALEOMAVAEKA. Along the line of Mr. Fisher's comments, if my numbers are correct, China has only exploded about 43 or 44 nuclear devices, as opposed to France's 260 and our 1,000 explosions. So in the national interest, if I were Chinese, would you not think that I would feel very much threatened with the fact that there is no balance or parity in testing? Would you suggest that perhaps we ought to have some sense of equilibrium among the "Nuclear Five" club members so that China does not feel threatened?

Mr. FISHER. I would also yield to the analysis of the colleague from Greenpeace, but it is my understanding, Congressman, that China has roughly 300-plus nuclear warheads on missiles and free-fall devices. That is quite a bit of fire power, I think, in anybody's estimation.

Mr. BEREUTER. I would like—

Mr. FALEOMAVAEKA. My point was the testing program, Mr. Fisher, and the fact that—

Mr. FISHER. Well, in addition, Congressman, I would remind you that China is the only country to have tested an ICBM with the South Pacific Nuclear Free Zone. In May 1980, the first Chinese ICBM was tested northwest of Fiji. Now, of course the United States wanted to test the MX missile in the Tasman Sea in early 1985, but then Prime Minister Robert Hawke denied that operation.

Mr. BEREUTER. Mr. Fisher, I think I understand how your comment got us to China, but I would like to return to the South Pacific in a more direct sense here.

Mr. FISHER. Certainly.

Mr. BEREUTER. You may have heard me ask a question to Secretary McNamara related to Protocol 1. According to its language, the prohibitions include the manufacture, stationing, and testing of a nuclear explosive device within those territories.

Are you as comfortable as he is that the word "stationing" does not include the transit and routine operation of American naval vessels that are nuclear-powered or that contain potentially tactical weapons?

Mr. FISHER. Congressman, no I am not. This is—I may have a minority view here, but it is my view that let us assume a scenario—again, I apologize for returning to China—but whereby we are denied entry and exit to the South China Sea and we are forced to a mobile tactical presence in the territory of our ally, Australia. I have no doubt that the Australians would comply to our request

because the threat to their security would be even greater to our own.

But in doing so, we would have to overcome the hurdle of this treaty, and it raises the question then why make this gesture that is regarded very seriously by many people in the South Pacific when it could be at such variance with future military operations and we would have to discard it.

Mr. BEREUTER. Thank you.

Mr. BODDE. Mr. Chairman.

Mr. BEREUTER. Ambassador Bodde. Yes.

Mr. BODDE. May I comment?

Mr. BEREUTER. Yes, then I wanted to turn to you for another question.

Mr. BODDE. Before you ask me a question, I would like to comment on that. I think there is no doubt that in certain kinds of crises the interpretation of the treaty would be different from the side of the United States and Australia than it might be of one or two of the Pacific Islands, but I think we would prevail. But this treaty is designed to stop nuclear testing in the Pacific where the people have had or have been exposed to tremendous amounts of nuclear testing. It is designed to stop the French testing in the Pacific. That is what it is designed for, and they tried to write it with consultation with us and certainly with the Australians—they tried to write it in a way that would give us the absolute greatest degree of flexibility so that we would not be endangered.

Now, like any arms control agreement, I mean, if you go to a military planner, he would like to have no agreements because that gives him an absolutely free hand.

Mr. BEREUTER. They could have written it a little less ambiguously. They could have had an exclusion clause in it.

Mr. BODDE. As transit is allowed, we could issue our understanding of the treaty when we sign it, saying that—

Mr. BEREUTER. Yes.

Mr. BODDE [continuing]. in signing these protocols, we—

Mr. BEREUTER. That is one of the reasons I raised the question about the reservations or conditions that might be placed on it.

Ambassador Bodde, I noted previously your comment about having some experience in France itself, and I am going to ask you some questions on French Polynesia and French policy. If you do not feel comfortable in answering them, that is perfectly all right. But I thought you might be a person—

Mr. BODDE. Being outside of the government, I do not have any problems.

Mr. BEREUTER. No worries, huh?

In what ways does the Chirac administration differ from the Mitterand Government in its South Pacific policy, as you see it?

Mr. BODDE. I do not think there is any doubt that Chirac is much more conservative and a Gaullist, and is less sensitive to the views of the Pacific Islanders, including the natives in New Caledonia and French Polynesia. I think in the Socialist party in France there is probably more sympathy for their aspirations than there are in the Conservative wing.

So I think it is no surprise that France is taking a tougher position now. But again, he has made the commitment that at the end of this he will desist from testing.

Mr. BEREUTER. Has the Chirac Government altered the French stance with respect to New Caledonia?

Mr. BODDE. To my knowledge, it has not, but I do not have access to the documents and the information that I had.

Mr. BEREUTER. I would ask this of you, Ambassador, and perhaps you, Mr. Handler, as well. Have suspicions of French policy risen in New Caledonia among Pacific Islanders as a result of the Chirac election?

Mr. HANDLER. Suspicions in what sense?

Mr. BEREUTER. Suspicions of French policy and whether or not they are less sensitive to—

Mr. BODDE. Well, generally speaking, the Pacific Islanders feel France is the most colonialist of any of the powers out there.

Mr. BEREUTER. Is that accentuated by this election, or is it not noticeable?

Mr. BODDE. I think they feel the election has made this even more so, and I would not be surprised that they do. Certainly when Vanuatu became independent, the French were very reluctant in the way they handled independence when they left, and so in a way the cheese is doubly binding with nuclear tests in that the end of testing must come from the French, because the French are perceived to be the most colonial powers out there.

Mr. BEREUTER. I have a couple of final questions for Mr. Handler, but any of you should feel free to make a comment if you wish.

With respect to the two atolls on which the tests have been conducted by the French, do you believe that the environmental surveys that have taken place there were adequate enough to ensure that reliable conclusions could be drawn?

Mr. HANDLER. We discussed this a bit earlier, Mr. Chairman, I guess while you were out.

Mr. BEREUTER. I am sorry.

Mr. HANDLER. No, that is quite all right. No, clearly they have not. Access has been limited and to get to the bottom of this story, we would have to have much more extensive surveys over a much longer period of time.

Mr. BEREUTER. You heard perhaps my question to Secretary McNamara regarding Greenpeace's comments about the cracks in the atoll surface and other kinds of signs of stress and phenomenon of that nature. What would you say to supplement potential criticism of the accuracy of that measurement? Is there anything additional you want to submit for the record?

Mr. HANDLER. Yes. I would be happy to provide the longer references those quotes are taken from. We cite from the various reports that have been done over the years, so I do not have them all with me today.

Mr. BEREUTER. All right.

Mr. HANDLER. But I can get those.

Mr. BEREUTER. If you would submit those for the record, they will be made a part of the record without objection.

Finally, there were press reports quoting a CIA study which indicated that there was leakage of radioactive material from the French test site due to the failure to use a metal sleeve in the bore holes used for the test. I think the conclusion that was attributed to the CIA, whether or not this is accurate, is that that was insignificant.

But is there anything that you wanted to say about Greenpeace's views about the use or non-use of sleeves on the bore holes?

Mr. HANDLER. In terms of analysis, I am just familiar with what was said here or in the CIA report, and it seems to be pretty straightforward. If there had been more lining of the sleeves, it would reduce the chances that radiation would leak through the porous rock into the outside of the atoll.

Mr. BEREUTER. All right. I think I have concluded my questions. Are there any that you still have, Mr. Faleomavaega?

Mr. FALEOMAVAEGA. Mr. Chairman, if possible I would like to submit additional questions for the record for our friends here to respond if possible.

Mr. BEREUTER. I have left that open to all members.

Mr. FALEOMAVAEGA. I want to thank all three guests for their testimony and we certainly appreciate their being here and look forward in continuing to work with them on these issues affecting nuclear testing in the Pacific. And thank you, Mr. Chairman, for taking the initiative and the leadership to provide for this hearing.

Mr. BEREUTER. Gentlemen, you have been with us for quite awhile. My sincere appreciation to all three of you for the time that you have spent in preparing your testimony and your time here today in answering our questions and giving your testimony. Thank you.

This hearing is adjourned.

[Whereupon, at 4:16 p.m., the hearing was concluded.]



## APPENDIX

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OPENING STATEMENT  
OF THE  
HONORABLE ENI F.H. FALEOMAVAEGA  
AT THE  
HOUSE INTERNATIONAL RELATIONS  
SUBCOMMITTEE ON ASIA-PACIFIC AFFAIRS  
HEARING ON  
NUCLEAR ISSUES IN THE SOUTH PACIFIC  
NOVEMBER 15, 1995

MR. CHAIRMAN:

I COMMEND AND THANK YOU FOR HOLDING THIS HEARING TO EXAMINE NUCLEAR ISSUES IN THE SOUTH PACIFIC. WITHOUT A DOUBT, THESE MATTERS TODAY ARE OF THE HIGHEST PRIORITY AND GREATEST CONCERN TO THE PEOPLE OF THE PACIFIC REGION.

THIS SEPTEMBER, DESPITE NEAR UNIVERSAL CONDEMNATION, FRANCE EXPLODED A NUCLEAR BOMB AT ITS TESTING FACILITIES AT FRENCH POLYNESIA'S MORUROA ATOLL AND JOINED CHINA IN BREAKING THE INTERNATIONAL TESTING MORATORIUM WHICH THE U.S. HAS SUPPORTED. IN THE WEEKS FOLLOWING, FRANCE DETONATED TWO ADDITIONAL NUCLEAR BOMBS, AND PLANS THREE MORE TESTS.

FRANCE'S DECISION TO BREAK THE TESTING MORATORIUM IMPEDES PROGRESS TOWARDS CURBING THE SPREAD OF NUCLEAR WEAPONS ACHIEVED THIS SPRING AT THE UNITED NATIONS EXTENSION CONFERENCE FOR THE NUCLEAR NONPROLIFERATION TREATY AND UNDERMINES NEGOTIATIONS TO CONCLUDE A COMPREHENSIVE TEST BAN TREATY. IN THE AFTERMATH OF THE COLD WAR, CONTINUED NUCLEAR TESTING BY THE NUCLEAR POWERS LEGITIMIZES THESE WEAPONS AND ENCOURAGES ROGUE STATES TO ACQUIRE NUCLEAR EXPLOSIVE DEVICES THAT THREATEN THE SECURITY OF THE UNITED STATES.

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MOREOVER, I AM PARTICULARLY CONCERNED WITH THE POSSIBLE ENVIRONMENTAL AND HEALTH RISKS THAT FRENCH NUCLEAR TESTING PRESENTS, NOT ONLY TO THE PEOPLE OF FRENCH POLYNESIA AND THE REGION, BUT TO THE MILLION AMERICANS WHO LIVE IN THE PACIFIC.

ALTHOUGH THE FRENCH GOVERNMENT HAS DENIED THAT THE TESTS THREATEN THE HEALTH AND SAFETY OF PACIFIC RESIDENTS OR ENDANGER THE REGION'S FRAGILE MARINE ENVIRONMENT, DOCUMENTS RELEASED BY FRANCE'S ATOMIC ENERGY COMMISSION CONFIRM THAT AT LEAST THREE TESTS IN THE PAST HAVE LED TO RADIOACTIVE CONTAMINATION AT MORUROA ATOLL. MOREOVER, THE SCIENTIFIC MISSIONS TO MORUROA -- ALTHOUGH SEVERELY RESTRICTED BY FRENCH AUTHORITIES IN THEIR ACCESS TO TEST SITES, TEST DATA AND TIME FOR STUDY -- HAVE VERIFIED THE PRESENCE OF RADIOACTIVE ISOTOPES SUCH AS IODINE-131, CESIUM-134, TRITIUM, KRYPTON-85 AND PLUTONIUM. THE PRESENCE OF THESE RADIONUCLIDES SUBSTANTIATE FEARS THAT LEAKAGE, VENTING AND ACCIDENTAL DISPERSAL OF RADIOACTIVE MATERIALS HAVE OCCURRED AT FRANCE'S TEST FACILITIES. DESPITE FRANCE'S ASSURANCES TO THE CONTRARY, THESE REPORTS CONFIRM THAT THEIR UNDERGROUND TESTING PROGRAM CANNOT ENSURE THAT RADIOACTIVE CONTAMINATION IS FULLY CONTAINED NOW -- LET ALONE IN THE LONG-TERM WHERE IT CANNOT BE CONTESTED THAT RADIOACTIVE LEAKAGE TO THE SURROUNDING ENVIRONMENT IS INEVITABLE.

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A FRENCH SCIENTIFIC MISSION LEAD BY WORLD-FAMOUS OCEANOGRAPHER JACQUES COUSTEAU IN 1987 FOUND SOLID EVIDENCE OF STRUCTURAL DAMAGE TO MORUROA ATOLL, INCLUDING SPECTACULAR FRACTURES, CRACKS AND FISSURES -- CAUSING HIM TO REPORT THAT THE WATER-SURROUNDED TEST SITE WAS THE "WORST CHOICE" FOR CONTAINMENT OF RADIOACTIVE WASTE. I COMMEND COMMANDER COUSTEAU, WHO PROTESTED FRANCE'S RESUMPTION OF NUCLEAR TESTING IN THE PACIFIC BY HANDING FRENCH PRESIDENT CHIRAC HIS RESIGNATION FROM THE GOVERNMENT'S TOP ENVIRONMENTAL REVIEW PANEL.

AFTER OVER 180 NUCLEAR BLASTS IN FRENCH POLYNESIA, MORUROA ATOLL HAS BEEN DESCRIBED BY TECHNICIANS AS A "SWISS CHEESE OF FRACTURED ROCK." FOR THOSE LIVING IN THE PACIFIC, IT IS DISTURBING TO THINK OF THE CONSEQUENCES IF FRANCE'S CONTINUED TESTING RUPTURES THE ATOLLS AND RELEASES INTO THE OCEAN CURRENTS UNIMAGINABLE AMOUNTS OF RADIOACTIVE CONTAMINANTS.

WHILE ALL OTHER NUCLEAR POWERS TEST WITHIN THEIR BORDERS, THE PEOPLE OF TAHITI HAVE URGENTLY OPPOSED FRANCE'S USE OF THEIR ISLANDS AS A NUCLEAR TEST DUMPSITE. THE RECENT NUCLEAR BOMB DETONATIONS IN MORUROA AND FANGATAUFA ATOLLS, A DECISION MADE IN PARIS OVER 10,000 MILES AWAY, SYMBOLIZE FRANCE'S COLONIAL ARROGANCE AND RECKLESS DISREGARD FOR THE WELFARE OF 200,000 TAHITIANS AND THE 28 MILLION MEN, WOMEN

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AND CHILDREN OF OCEANIA. IF THESE TESTS ARE SO SAFE, FRANCE SHOULD TEST IN FRANCE, RATHER THAN FORCING THEIR HUNDREDS OF NUCLEAR DETONATIONS ON UNWILLING PEOPLE FAR, FAR AWAY.

ALTHOUGH I FIND FRANCE'S RESURRECTION OF THE NUCLEAR NIGHTMARE IN THE PACIFIC TO BE DEPLORABLE, I FIND IT JUST AS DEPLORABLE REPORTS THAT OUR GOVERNMENT MAY BE AIDING FRANCE'S TESTING PROGRAM IN THE SOUTH PACIFIC. WHILE THE UNITED STATES HAS GONE ON RECORD IN OPPOSING FRANCE'S NUCLEAR TESTING AND CALLED FOR ITS END, THERE ARE INDICATIONS THAT THE U.S. IS PERMITTING FRENCH DC-8 SUPPLY PLANES EN ROUTE TO MORUROA TO OVERFLY AND REFUEL IN U.S. TERRITORY. MY UNDERSTANDING IS THAT THE STATE DEPARTMENT HAS NOT DEFINITIVELY DECLARED THAT FISSION MATERIALS WERE NOT ON-BOARD THESE FRENCH AIRCRAFT. TRANSPORTING PLUTONIUM THROUGH AMERICAN AIRSPACE WITHOUT ENERGY DEPARTMENT CLEARANCES IS ILLEGAL.

IN LIGHT OF U.S. POLICY IN OPPOSITION TO FRENCH NUCLEAR TESTING, I FIND THIS MATTER TO BE RIFE WITH HYPOCRISY. WHETHER THE ADMINISTRATION IS PLACING THE AMERICAN PUBLIC AT NUCLEAR PERIL WITH THESE FRENCH OVERFLIGHTS OR IS COVERTLY SUPPORTING FRANCE'S NUCLEAR TESTING IN THE PACIFIC, I THINK THEY OWE MEMBERS IN CONGRESS ANSWERS REGARDING THE EXTENT AND DETAIL OF U.S. NUCLEAR COLLABORATION WITH FRANCE.

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ON THE OTHER HAND, I SUPPORT THE ADMINISTRATION'S DECISION TO JOIN THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY (SPNFZ), AN EVENT OF HISTORIC IMPORTANCE TO THE NATIONS OF THE SOUTH PACIFIC AS IT PROMOTES THE PERMANENT END TO NUCLEAR TESTING IN THE REGION. I STRONGLY FEEL, HOWEVER, THAT THE U.S. SHOULD SIGN THE SPNFZ PROTOCOLS IMMEDIATELY, RATHER THAN WAIT TILL MID-1996 FOR JOINT ACCESSION WITH FRANCE AND BRITAIN. IF THE ADMINISTRATION IS SERIOUS ABOUT NONPROLIFERATION, WE SHOULD STOP ACCOMODATING FRANCE AND PROVIDING POLITICAL COVER FOR THEIR CONTINUED TESTING IN THE PACIFIC. PARIS SHOULD NOT BE DICTATING U.S. FOREIGN POLICY.

JOINING THE SPNFZ TREATY IS IN THE U.S. NATIONAL INTEREST AS IT ADVANCES U.S. NONPROLIFERATION OBJECTIVES WITHOUT UNDERMINING U.S. SECURITY PRACTICES IN THE SOUTH PACIFIC, AS PAST ADMINISTRATIONS HAVE CONCEDED WHILE TESTIFYING BEFORE CONGRESS. THE TREATY WAS CAREFULLY DRAFTED, WITH CONSIDERABLE INPUT FROM THE REAGAN ADMINISTRATION, TO ACCOMODATE U.S. INTERESTS, INCLUDING OUR POLICY TO "NEITHER CONFIRM NOR DENY" THE PRESENCE OF NUCLEAR WEAPONS ON AMERICAN WARSHIPS OR AIRCRAFT; AND IT SPECIFICALLY PROTECTS FREE TRANSIT THROUGH THE ZONE BY U.S. VESSELS AND PLANES CARRYING NUCLEAR WEAPONS.

THE U.S. ALREADY SUPPORTS NUCLEAR-WEAPON-FREE ZONES AROUND THE WORLD, AND HAS SIGNED TREATIES PROHIBITING

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NUCLEAR WEAPONS IN LATIN AMERICA, THE ANTARCTIC, THE OCEAN FLOOR AND IN OUTER SPACE. NOT LONG AGO, THE WHITE HOUSE LAUDED ARGENTINA, CHILE AND BRAZIL'S ENTRY INTO THE LATIN AMERICA NUCLEAR FREE ZONE TREATY, NOTING THE TREATY -- WHICH THE U.S. ENTERED INTO DURING THE NIXON AND REAGAN ADMINISTRATIONS -- HAS BEEN A CRITICAL BUILDING BLOCK FOR PEACE AND STABILITY IN THE WESTERN HEMISPHERE, OUR BACKYARD, WHILE REINFORCING THE INTERNATIONAL NONPROLIFERATION REGIME.

WITH CESSATION OF THE COLD WAR, JUSTIFICATION FOR MUCH OF OUR NATION'S PAST RELUCTANCE TO JOIN THE SPNFZ TREATY HAS EVAPORATED. THE SOVIET NUCLEAR THREAT IN THE PACIFIC NO LONGER EXISTS. INSTEAD, THE U.S. AND RUSSIA ARE COMMITTED TO DEEP REDUCTIONS IN THEIR NUCLEAR ARSENALS, THE U.S. HAS REMOVED TACTICAL NUCLEAR WEAPONS FROM ITS SURFACE FLEET, AND THE PROSPECTS FOR A COMPREHENSIVE TEST BAN TREATY ARE GOOD IN 1996.

MR. CHAIRMAN, IN THIS NEW POST-COLD WAR ERA OF LESSENED NUCLEAR TENSION, IT IS ABOUT TIME THAT THE U.S. HEDED THE CALLS FOR ASSISTANCE BY OUR PACIFIC ALLIES BY SIGNING THE SPNFZ PROTOCOLS AS PART OF A COMPREHENSIVE NUCLEAR NONPROLIFERATION POLICY.

THANK YOU, MR. CHAIRMAN, AND I LOOK FORWARD TO HEARING THE TESTIMONY OF OUR WITNESSES TODAY.

**OPENING STATEMENT****HEARING ON NUCLEAR ISSUES IN THE SOUTH PACIFIC****Rep. Howard L. Berman**

- First, I would like to thank Chairman Bereuter for holding today's hearing. I would also like to commend Rep. Faleomavaega for his persistence in raising this issue's visibility in the Congress.
- As an original co-sponsor of Mr. Faleomavaega's H. Con Res. 80, calling on the French to cease all nuclear testing in the Pacific, I hope that the hearing provides the impetus for the leadership to bring this resolution finally to the floor for passage.
- The Clinton Administration has taken significant steps towards easing the threat of nuclear weapons including:
  - last May's indefinite extension of the Nuclear Non-Proliferation Treaty
  - last August's Presidential announcement that the United States would adopt a zero yield Comprehensive Nuclear Test Ban Treaty (CTBT)
  - October's announcement of our intention to sign the Treaty of Rarotonga, creating a South Pacific Nuclear Free Zone (SPNFZ)

President Clinton deserves to be congratulated.

- At the same time I am concerned about reports that the Administration has not taken as forceful a position as could have been taken in opposition to French nuclear testing in the South Pacific.
- Reportedly, the French were allowed to overfly American territory with nuclear materials. I hope the Administration will answer these charges either in public or private session.
- I am also concerned about charges made by Greenpeace in its testimony that the State Department has provided little assistance in gaining the release of Greenpeace's US-flagged vessel from the French.

- This issue is bigger than the South Pacific. Other nuclear and threshold nuclear states can only be encouraged by French insistence on nuclear tests. A complete cessation would be immeasurably helpful as we work to control the spread of nuclear weapons and gain support for a comprehensive test ban.



## United States Department of State

Washington, D.C. 20520

## THOMAS E. McNAMARA

Assistant Secretary of State  
for Political-Military Affairs  
Department of State

Thomas E. McNamara became Assistant Secretary of State for Political-Military Affairs in October, 1994. He came to this position after serving as Principal Deputy Assistant Secretary of State for Political-Military affairs since July, 1993. Prior to this, Ambassador McNamara headed the State Department Office of the Ambassador-at-Large for Counterterrorism.

From 1988 to 1991, he was the U.S. Ambassador to Colombia. Following that assignment, McNamara returned to Washington to work at the National Security Council as Special Assistant to the President for National Security Affairs and Senior Director for International Programs and African Affairs. A career diplomat, his overseas experience included tours in Paris, Lubumbashi, Bukavu, Moscow, and as Deputy Chief of Mission in Kinshasa, Zaire.

Assistant Secretary McNamara has extensive experience in political-military affairs, focusing on arms control and regional security. In the 1970s he was involved in most major arms control issues, serving in embassies, on negotiating delegations, and in the Department of State and the Arms Control and Disarmament Agency. His background in regional security affairs includes every major area of the globe -- Europe, Mid-East, Africa, Asia, and Latin America. He was responsible for regional security affairs as Deputy Assistant Secretary of State for Politico-Military Affairs, 1983-86, before his first tour on the National Security Council as Director for Counterterrorism and Counternarcotics.

Ambassador McNamara was born in New Haven, Connecticut and received a B.A. and an LLD (hon.) from Manhattan College, and an M.A. from the University of Notre Dame. He is married to the former Emma Julia Fonseca, and has two children.

TESTIMONY OF THOMAS E. McNAMARA

ASSISTANT SECRETARY OF STATE FOR POLITICAL-MILITARY AFFAIRS

BEFORE THE  
SUBCOMMITTEE ON ASIA AND THE PACIFIC  
HOUSE INTERNATIONAL RELATIONS COMMITTEE

NOVEMBER 15, 1995

Good afternoon, Mr. Chairman and members of the sub-committee. I am here today to discuss two issues that have direct relevance to the nuclear nonproliferation regime, the issue of the treaty creating a South Pacific Nuclear Free Zone, known as the Treaty of Rarotonga, and French nuclear testing in that zone. First, however, I would like to put these discussions into a global context.

The cornerstone of the global nuclear nonproliferation regime, the Treaty on the Non-Proliferation of Nuclear Weapons, the NPT, was extended indefinitely and unconditionally in May of this year. The extension of the NPT, a treaty which is essential and invaluable in securing global peace and security, was made possible through the combined efforts of many nations.

Leadership on the indefinite extension of the NPT was exercised by a very diverse group which included among others, the United States, the Western European countries, Canada, Australia, Japan, Argentina, and South Africa. South Africa played a unique role in the conference, as the only country to have possessed nuclear weapons and then to have renounced them to join the NPT. President Mandela's courage and wisdom on this issue were central in achieving the treaty's permanent extension. In addition, the contributions of the nations of the South Pacific, while less public, were equally vital.

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These states were long term advocates of NPT extension, endorsing the principle of indefinite extension at the 1993 and 1994 meetings of their regional organization, the South Pacific Forum. They joined with us at the NPT Review Conference in sponsoring the resolution to extend the NPT indefinitely and without conditions, a resolution ultimately co-sponsored by a majority of all the NPT parties. President Clinton called this overwhelming consensus in favor of making the treaty permanent "critical" in making the American people -- and the people of the world -- more safe and secure.

I would like to turn now to the Treaty of Rarotonga, or the South Pacific Nuclear Free Zone. As we noted in connection with the decision to extend the NPT, the U.S. believes that internationally recognized nuclear weapon free zones, on the basis of arrangements freely arrived at among the states of the region concerned, can and do contribute to international peace and security. The 1995 NPT Review and Extension Conference Resolution on Principles and Objectives repeated this judgment and encouraged the creation of such zones as a matter of priority. The conference also recognized that the cooperation of all the nuclear weapons states, and their respect and support for the relevant protocols, are necessary for the maximum effectiveness of such nuclear weapon free zones. In this light, the U.S., the U.K., and France jointly announced on October 20, 1995 our intention to sign the relevant protocols to a South Pacific Nuclear Free Zone, the Treaty of Rarotonga, in the first half of 1996.

The Treaty of Rarotonga prohibits the testing, manufacture, acquisition, or stationing of nuclear explosive devices in the territory of the parties to the treaty, and also prohibits the dumping of radioactive wastes at sea within the zone. The treaty also requires all parties to apply full scope International Atomic Energy Agency safeguards to all their peaceful nuclear activities. A comprehensive control system, which includes mandatory on-site inspections, has been established to verify compliance with the treaty. The treaty affirms the right of each party to allow visits by foreign ships and aircraft to its ports and airfields. Finally, the treaty specifically upholds the freedom of navigation on the high seas and passage through territorial waters guaranteed by international law.

In addition, the Treaty of Rarotonga also has three protocols. Protocol 1 of the treaty provides that states with territories within the zone are to apply the basic provisions of the treaty to their respective territories. The treaty will therefore apply to American Samoa and Jarvis Island once the U.S. ratifies this protocol.

Under Protocol 2, the nuclear weapons states agree not to use or threaten to use nuclear weapons against any party to the treaty or the territory within the zone of protocol parties.

Under Protocol 3, the nuclear weapons states agree not to test nuclear weapons within the zone established by the treaty.

The Treaty of Rarotonga was opened for signature on August 6, 1985 at Rarotonga, the largest of the Cook Islands. All nations of the South Pacific are eligible to join the treaty. The treaty entered into force on December 11, 1986. The protocols to the treaty were opened for signature on August 8, 1986 in Suva, Fiji. I would stress that none of the U.S.'s current or prior activities or practices within the zone established by the treaty are inconsistent with either the treaty or its protocols.

Our decision to sign on to the relevant protocols of the Treaty of Rarotonga at this time, and the recent joint announcement to that effect, reflect positive regional and global developments that have recently occurred. All countries relevant to the treaty and its protocols have become parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the NPT. In addition, as we have seen, the NPT itself was extended indefinitely and without conditions on May 11, 1995. We have also made progress on a comprehensive treaty banning the testing of nuclear explosive devices. All of these positive developments have contributed to our recent joint announcement with the U.K. and France that we will sign the relevant protocols of the Treaty of Rarotonga during the first half of 1996.

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Finally on this issue, Mr. Chairman, I would like to emphasize an essential point. None of the practices or activities of the United States in the region are impaired by the Treaty of Rarotonga. In particular, rights of transit for naval forces are specifically guaranteed in the treaty. In short, this treaty helps to guarantee our own security and the security of the nations in the zone in a thoughtful manner consistent with U.S. global policies concerning nuclear nonproliferation.

Next, Mr. Chairman, I would like to turn to the issue of nuclear testing in the South Pacific. The issue of nuclear testing by France, or by any other nation, is best viewed in the context of efforts to achieve a Comprehensive Nuclear Test Ban Treaty (CTBT) in 1996. The CTBT is a high priority of this administration. A universal and verifiable CTBT will serve the U.S. national interest by foreclosing the possibility of further nuclear weapons modernization by the five nuclear weapons states and by establishing barriers to the development of modern nuclear weapons by the non-nuclear weapon and threshold-nuclear states. As an indirect but very real benefit, the CTBT will strengthen the NPT, the key to the international nuclear non-proliferation regime; most parties to the NPT, including successive U.S. administrations, have interpreted the NPT's Article VI to require the nuclear-weapons states to conclude a CTBT.

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The President has given this issue his personal attention and has twice made decisions designed to move the negotiations in Geneva forward: in January of this year, he decided to abandon the U.S. position enabling nations to withdraw from the treaty after ten years for reasons other than supreme national interest; and in August of this year he announced that the United States would pursue a zero yield CTBT.

The United States consistently has urged other nations in the Conference on Disarmament to move forward more quickly. We have, for instance, sought extra meetings during the periods between sessions. The President has also written his counterparts among the members of the Conference on Disarmament, urging them to instruct their negotiators to conclude a zero yield CTBT in time for signature in the fall of 1996 and to give their negotiators the flexibility needed to reach that goal. We believe that the CTBT can be concluded next spring and be ready for signature by the fall of next year.

France is a strong supporter of a zero yield CTBT by the fall of 1996. We take note of President Chirac's strong commitment to end testing and conclude a CTBT by May of 1996, and to sign a CTBT no later than the fall of 1996. In addition, France has been extremely helpful in working within the P-3 and P-5 to forge agreement on all details of a zero-yield CTBT, and we believe their continued active participation is critical to signing the Treaty by next fall.

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While we welcome France's commitment to a zero yield CTBT and its support of our efforts to have such a treaty ready for signature by the fall, we regret the French decision to resume testing. We have repeatedly and consistently made our position known to them: we believe a global moratorium on nuclear testing will provide the most favorable environment in which to negotiate a true zero-yield Comprehensive Test Ban Treaty (CTBT). In this light, we were pleased to note the French decision to curtail their testing schedule from eight tests to six. Finally, by committing itself through the October 20 joint statement to sign the relevant protocols of the Treaty of Rarotonga that prohibit nuclear testing in the zone, France has signalled its intention to halt nuclear testing by mid-1996.

Once again, I would like to thank the committee for allowing me to speak before you here today on these important issues. I look forward to your questions.

**Biographic Data**  
**William Bodde, Jr.**  
**United States Ambassador (Ret.)**

A private consultant, Ambassador Bodde has lectured widely in Europe, Asia, and the United States. He is the author of numerous articles on foreign policy and international trade. He is President of WBJ ASSOCIATES, Senior Advisor to the Pacific Basin Economic Council, United States Member Committee (PBEC U.S.), Vice Chairman of the International Advisory Committee of Project ASPIRE, member of the advisory committee to the Chairman of the APEC Eminent Persons Group, and a member of the U.S. Pacific Economic Cooperation Council.

As a United States Foreign Service Officer (1962-1994), Ambassador Bodde was a senior policy maker and an advisor to Presidents Reagan and Bush, and successfully managed large organizations. His diplomatic career spanned three geographic areas of specialization: Europe, Asia, and the Pacific islands.

**Europe:** His foreign assignments until 1977 were as a political officer in Vienna, Stockholm, Berlin, and Bonn. He returned to Europe in 1983 as Consul General in Frankfurt, the largest Consulate General in the world. In 1986 he returned to the State Department where he served as Deputy Assistant Secretary of State for European and Canadian Affairs. In this capacity he was in charge of relations with 14 West European nations, including the two Germanys.

**Asia:** In November 1992 Ambassador Bodde was named the first Executive Director of the Asia Pacific Economic Cooperation (APEC) forum. Arriving in Singapore in January 1993, Ambassador Bodde was charged with creating a fully operating, multi-cultural international organization in less than one year. He has been commended for this accomplishment by the Asia Pacific Foreign and Trade Ministers and the U.S. Secretary of State. He wrote a book about the experience titled: The View From The 19<sup>th</sup> Floor: Reflections of the First APEC Executive Director published by the Institute of Southeast Asia Studies in Singapore.

**Pacific Islands:** In 1978 he became the first State Department Director of Pacific Islands Affairs. Besides formulating U.S. policy towards the Pacific Island nations, he served as the State Department's senior representative to the Micronesian Political Status Negotiations. In 1980 President Carter named him Ambassador to Fiji, Tonga, and Tuvalu and Minister Extraordinary and Plenipotentiary to Kiribati as well as the United States Representative to the South Pacific Commission. He left Fiji in 1982 for Honolulu, Hawaii to serve as the first Diplomat in Residence at The East-West Center. In 1990, President Bush named him the first Ambassador to the Republic of The Marshall Islands.

Ambassador Bodde has taught at the graduate school of the University of Hawaii and has served as Senior Advisor for Policy Planning in the State Department's Bureau of Oceans, International Environment, and Science Affairs. He has received two superior honor awards from the Department of State and a Presidential Award. The Hofstra Alumni Association has honored him with two successive distinguished alumni awards. He has also received a special medal from the German Confederation of Chambers of Commerce for his efforts to bring German and American business people together.

William Bodde, Jr. was born November 27, 1931 in Brooklyn, New York. He received a BA in History and Political Science from Hofstra College and an MPPA from the Johns Hopkins School of Advanced International Studies. He served in the U.S. Army overseas from 1951-54. Before joining the Foreign Service in 1962 he spent a year as a policy analyst in the Housing and Home Finance Agency and from 1954 to 1961 he worked for Newsday Inc. He is married to the former Ingrid Oberle of Worms, Germany. They have a daughter and two sons. Both sons are United States Foreign Service Officers.

Statement before  
The Subcommittee on Asia and the Pacific  
of the House International Relations Committee  
by  
The Honorable William Bodde, Jr.  
November 15, 1995

Thank you, Mr. Chairman for the opportunity to appear before a hearing of the Subcommittee on Asia and the Pacific on the subject of Nuclear Issues in the South Pacific. I understand that the Subcommittee wants to focus on two major issues: French nuclear testing and the decision by the Clinton Administration to sign the Protocols of the Treaty of Rarotonga, which established a South Pacific Nuclear Free Zone (SPNFZ). I was concerned with nuclear issues in the South Pacific during my career as a United States Foreign Service Officer, and I continue to follow them with great interest.

As you can see from the biographic data I provided to the Subcommittee, I have served as Ambassador or Minister to a number of South Pacific Island nations, including: Fiji, Tonga, Tuvalu, Kiribati, and The Republic of the Marshall Islands. In addition to being the first Director of the Office of Pacific Islands Affairs in the U.S. Department of State (1978-80), and the first Diplomat in Residence at the East-West Center in Hawaii, I was United States Representative to the South Pacific Commission (1980-82). During the period 1986-89, when I was Deputy Assistant Secretary of State for European and Canadian Affairs, I was involved in the decision of the Reagan Administration not to sign the South Pacific Nuclear Free Zone (SPNFZ) Treaty.

I believe that it is very unlikely that the French will be persuaded by world opinion or pressure from the United States to stop testing at Mururoa before they complete the present series. However, the United States should do everything possible to encourage them to permanently stop testing at the end of this series and to become a signatory to the Treaty of Rarotonga. With the demise of the Soviet Union and the end of the Cold War, the international situation has undergone significant change since 1989. Because of these changes I am now convinced that the United States should become a signatory of the SPNFZ Treaty. To understand how we have gotten to the

present situation, it is useful to look at the history of nuclear testing in the Pacific islands.

### I. The Pacific Island Nations and Nuclear Testing

Pacific islanders believe that the nuclear powers, if they should test their nuclear weapons at all, should test them within their own continental boundaries. Pacific islanders have good historical reasons to resent the nuclear tests that have taken place to this point in the Pacific islands, let alone those that are presently being undertaken in French Polynesia. Some major historical reasons why The Pacific Island States strongly oppose nuclear testing in the Pacific are:

1. The decisions to test nuclear weapons were made by the colonial powers, with the islanders having no say in the matter;
2. The tests took place in the Pacific to avoid putting the colonial power's own population or land at risk;
3. The people and land that suffered the adverse health and environmental effects of nuclear testing were overwhelmingly Pacific Islanders;
4. While the Pacific islanders were not at all pro-Soviet, they did not feel themselves part of the Cold War rivalry, or at least not enough to be willing to bear the major burden of nuclear testing.
5. The nuclear testing in their homelands brought little in the form of economic development to the island states.

To fully grasp the depth of feeling among the Pacific Island nations about nuclear testing in the Pacific region, it is especially important to recognize that all nuclear testing has taken place when the island states were colonies. Even today, the only place in the Pacific where nuclear devices are being tested is in French Polynesia, a colony of France.

Sixty six<sup>1</sup> American nuclear tests took place from 1946 to 1958 on Bikini and Enewetak Atolls in the Marshall Islands, and in 1962, twenty four<sup>2</sup> nuclear devices were detonated on Christmas Island in the Line Islands. During this period, the Marshall Islands were part of the United Nations Trust Territory of the Pacific Islands (TTPI), administered by the United States. In 1986 the Republic of the Marshall Islands became a sovereign state under the Compact of Free Association with The United States. Christmas Island, in the Line Islands, was under British administration until 1979 when the Line, Gilbert, and Phoenix islands became independent as the Republic of Kiribati. During the period when the tests took place, Christmas Island, along with several others in the South Pacific, were claimed jointly by the United States and the United Kingdom. The U.S. relinquished these claims in the 1980s in a series of treaties with the former British colonies.

The British began testing nuclear devices in the Pacific in 1952. They conducted a total of 12<sup>3</sup> tests on Monte Bello Islands, off the northwest coast of Australia, and on the mainland of Australia. Later, they moved the tests to Christmas Island in the Line Islands where they detonated six hydrogen and atomic bombs<sup>4</sup> in 1957 and 1958.

French nuclear tests in the Pacific began in 1966 in French Polynesia and continue to this day. The French have promised that at the end of the present series of tests they will stop testing completely and sign the South Pacific Nuclear Free Zone treaty, which prohibits nuclear testing in the South Pacific.

Given the criteria U.S. planners used in the late 1940's to determine where to test nuclear weapons, it is not surprising that the Pacific islands were chosen

<sup>1</sup> Jonathan M. Weisgall, "The Nuclear Nomads Of Bikini Atoll," *Foreign Policy Magazine*, #39, (Summer 1980), p.74.

<sup>2</sup> Jane Dibblin, *Day of Two Suns*, New Amsterdam, New York, 1990, p.212

<sup>3</sup> *Ibid.* p.207

<sup>4</sup> *Ibid.* p.211

as the site for U.S. testing . According to the Bikinians attorney, Jonathan Weisgall,

"the site for the tests had to meet numerous conditions: it had to be in an area controlled by the United States, in a climatic zone free from storms and cold temperatures, with a large sheltered area for target vessels and measuring the effects of radiation. It had to be uninhabited or have a small population that could be relocated easily. Naturally, the site had to be far away from population centers in the United States. As the Atomic Energy Commission told the Congress in 1953: The Commission felt that tests should be held overseas until it could be established more definitely that continental detonations would not endanger the public safety."<sup>5</sup>

Bikini Atoll, with a population of 167, and Enewetak Atoll with a population of 150 certainly fit the U.S. planner's model.

However, for Pacific Islanders it was a different matter. The colonial powers made their decisions without consulting them. True, the people of Bikini were asked to leave "for the welfare of all men" by the U.S. authorities, but, it certainly was an offer they could not refuse! In reality, neither the indigenous population nor their leaders had any say in where the tests were to take place.

It should not be surprising, then, that Pacific Islanders view the decisions to conduct nuclear tests in their homelands to be very much the product of colonialism. As these islands became independent, it could be expected that they would have a very negative view of nuclear testing in their back yard. Their conviction is strengthened by the fact that the one nation, France, continues to test in the Pacific and is perceived by the Pacific islanders as the most *colonialist* (i.e. the metropolitan power least willing to give up its Pacific territories).

The idea that the testing was done in the Pacific islands to avoid exposing the nuclear power's populations to any risk was reinforced by the tragic events surrounding the second hydrogen bomb test (Bravo) over Bikini Atoll on March 1, 1966. In previous tests, Marshallese living on two nearby atolls, Rongelap and Utrik, had been evacuated, but this time they were not and

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<sup>5</sup> Weisgall, *op. cit.*, P.76

strong winds (contrary to official predictions) blew considerable radioactive fallout over the two islands.

In addition to the Marshallese, 24 American service personnel, who were temporarily on Rongelap to report on weather conditions, were exposed to the high level of radioactive fallout. Since 1956, The Rongelap people have been the subject of annual physical surveys by Brookhaven National Laboratory. While there is an ongoing debate as to the genetic effects of nuclear fallout, Brookhaven acknowledges two deaths directly related to the fallout and that there has been a high incident of thyroid and other health problems among the exposed Marshallese. A Japanese tuna boat *Lucky Dragon* was caught in the Bravo fallout. One fisherman died and the other 23 suffered radiation sickness. The United States paid 2 million dollars compensation to the Japanese Government.

To outsiders, especially those from large-land mass countries where land is a commodity that is bought and sold frequently, it is difficult to understand the depth of the Pacific islander's close attachment to the land. In the Marshall Islands, for example, how an individual relates to a specific piece of land determines where she or he fits within the three classes of Marshallese society. In most of the Pacific islands land is communally owned, and therefore land ownership plays a major role in the way society is organized. This means that for Pacific islanders to be forced to leave their island home is a tremendously wrenching experience.

We also look at oceans differently from the islanders. For us, oceans are most often a physical phenomena that divides one land mass from another and in doing so may even provide greater security. Up until the advent of the long-range bomber and the intercontinental ballistic missile, the United States considered itself blessed to have two huge oceans separating us from potential adversaries. The Pacific islanders, on the other hand, consider the great Pacific Ocean to be a highway or a web that ties the Pacific people together. They view something that may be happening in some far-away corner of the Pacific to be important to them because its effects will eventually wash up upon their shores. For example, when I was State Department Director of Pacific Island Affairs in the late 1970's I had a hard time explaining to the Japanese why Pacific islanders were so upset about their plans to dump low-level nuclear waste off the shore of Japan. Japan's

scientific arguments that it would have little effect on the waters around the South Pacific islands were unconvincing to the islanders.

Finally, the social costs to the Pacific Islanders from nuclear testing have been enormous. Not only has the physical health of the people of Bikini and Rongelap and others suffered, but the social dislocation has been psychologically destructive. Forced to live from U.S. Government handouts they have developed an extensive welfare mentality. The grant of 150 million dollars for compensation to the Marshall islanders and the 110 million dollars earmarked for the clean-up of Bikini have made their dependency even greater. I wonder how the American taxpayer would feel if they were aware that the Bikini Council has used part of the funds (or the interest from the fund) to hold a number of its meetings in Las Vegas. While greed most certainly existed among the islanders (as it does in almost all earthly societies) long before their exposure to Europeans or Americans, the influx of millions of dollars into the Marshall Islands, with a population of only 50,000 people, has exacerbated the situation.

Despite the vast amount of money pouring into the Marshall Islands from the Compact of Free Association, rent for Kwajalein Atoll Missile Range and the nuclear testing settlements there has been little economic development and there remain serious health, economic and social problems. Acrimonious litigation over land or over traditional titles that effect the distribution of income have become common place. For example, there is on-going dispute between the Bikinians and The President of the Republic of the Marshall Islands, Amata Kabua who claims to be the traditional leader of the Bikinians. This would entitle him to a significant share of the Bikini' settlement and the Bikinians have resisted his claim. However, despite an understandable aversion to things nuclear on the part of the Marshallese, President Kabua, and even some of the Bikinians, have proposed that part of Bikini Atoll be used as a nuclear waste dump; an idea that is not very popular with other Pacific island nations. Were this to happen it would be a double blow to one of the most beautiful atolls in the Pacific.

## II. The Treaty of Rarotonga

Given the Pacific Islander's experience with nuclear testing and the continued French testing in Mururoa it is understandable that they would work together with Australia and New Zealand to press for an international

ban on nuclear testing in the Pacific. On August 6, 1985 the members of the South Pacific Forum, which includes most of the South Pacific Island nations plus Australia and New Zealand, signed the Treaty of Rarotonga, creating a South Pacific Nuclear Free Zone (SPNFZ). Australia, sensitive to the strategic needs of the United States, attempted to have the treaty drafted so that the United States would become a signatory. For example, the SPNFZ Treaty permits:

- Delivery and guidance systems testing (e.g. the U.S. Missile Testing Range at Kwajalein in the Marshall Islands);
- Nuclear weapon transit and temporary presence at port and airfields;
- Nuclear weapon systems: support facilities and programs;
- Nuclear weapon systems: exercises and operations;
- Nuclear weapon use or threat of use by nuclear powers or military alliances from (but not against) the Zone;
- Transport of nuclear powered vessels;
- Nuclear fuel extraction, processing and export, and;
- Nuclear waste reprocessing, storage and transport.

Despite these conditions, and despite Australian unhappiness, the Reagan Administration decided not to become a signatory of the Treaty. As Deputy Assistant Secretary For European and Canadian Affairs in the State Department at the time, I supported this position. One reason was a fear that proliferation of nuclear free zones would weaken the American nuclear deterrent. Another factor was that because of other United States interests in Europe and elsewhere we required close cooperation from the French. We did not want to damage relations with France over the issue of French nuclear testing in the Pacific.

### III. My Views on French Testing and The Clinton Administration's Decision to sign the SPNFZ Treaty

As wrong-headed as I believe the present French testing to be, I see no practical way of convincing the French Government to stop testing before the present series of tests is completed. However, we should press France to stop testing for good after the series is completed and to become a signatory to the South Pacific Nuclear Free Zone Treaty. As far as the United States becoming a signatory to SPNFZ, times have changed since the Reagan Administration! The Soviet Union no longer poses the threat that it did during the Cold War and France has already announced that it will stop testing after this latest series and sign the SPNFZ Treaty. I believe, then that the Clinton Administration is right in taking the position that the time has come to sign the SPNFZ Treaty.

The present-day nuclear arsenal of Russia or that of the USSR successor-states (or perhaps in the future some rogue regime) do pose a potential nuclear threat to the U.S. But, to counter these threats would not require the kind of nuclear testing that was necessary in the past nor would it require the United States to test nuclear weapons in the Pacific islands again.

By becoming a signatory to the Treaty we will show understanding for the views of the Pacific Island Nations and sympathy for what the peoples of the Pacific islands have endured in the past. Importantly, we can do so without undermining our military posture or eroding our readiness.



15 November 1995

Joshua Handler is research coordinator for Greenpeace's Disarmament Campaign. He has travelled widely in Russia, the United States, England, and France investigating the nuclear-powered fleets and nuclear weapons programs of these countries. He has authored or co-authored more than 50 articles, reports, op-eds, and conference papers on these topics, including co-authoring the *Encyclopedia of the U.S. Military* (Harper & Row, 1990), contributing chapters to books on U.S. military policy, the Russian military, the Law of the Sea, and environmental pollution in the countries of the former Soviet Union, and co-authoring Greenpeace's *Neptune Papers*, a seven part monograph series covering aspects of the nuclear arms race at sea.

He has an M.A. in international relations from the University of Chicago, and a B.A. in political science from the University of Illinois.

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Mr. Clements holds a BA (1973) from Emory University in Atlanta and a Masters in Forest Resources (1977) from the University of Georgia. Having participated in the First Earth Day activities in 1970, Mr. Clements went on to help organize various public interest groups working on conservation, energy, and utility regulation in his home state of Georgia and was a co-founder of a nuclear disarmament group in Athens in the early-1980s. Since the mid-1980s, he has worked for a halt to Congressional funding of wasteful nuclear projects by the US Department of Energy and for sound management of DOE's radioactive waste. He began working for Greenpeace USA in 1989 and for the last three years has coordinated work in the US for Greenpeace International's Plutonium Campaign, with a specialty in proliferation of weapons-usable plutonium. Since mid-1995, he has worked on an international team against French and Chinese nuclear weapons testing and for the Comprehensive Tests Ban Treaty (CTBT). While with Greenpeace, Mr. Clements has organized grassroots campaigns, written numerous articles, fact sheets and reports on nuclear disarmament and proliferation and has done extensive media work in the US and abroad. He has also worked as a building contractor, in urban forestry for the US Forest Service, as an environmental officer for the US Office of Surface Mining and served two years in the Peace Corps in Costa Rica on a reforestation project.



FRENCH NUCLEAR TESTING AND  
THE SOUTH PACIFIC NUCLEAR FREE ZONE

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Testimony Prepared for  
the House Committee on International Relations  
Subcommittee on Asia and the Pacific

15 November 1995

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## 1. INTRODUCTION

We would like to thank the Mr. Bereuter, Chairman of the Subcommittee on Asia and the Pacific, Mr. Faletomavaega, member of the subcommittee who has long supported US support for the South Pacific Nuclear Free Zone, and other members for allowing us to testify today.

Let us begin by simply stating that Greenpeace views the current series of nuclear weapons tests at the test site in French Polynesia as a undermining the finalization of a zero-yield Comprehensive Tests Ban Treaty (CTBT) which is currently being negotiated in Geneva. We feel that the tests should stop immediately and that France, along with the US and UK, should accede to the South Pacific Nuclear Free Zone Treaty protocols in rapid order.

In this testimony, I will cover the following areas:

- o Greenpeace and nuclear testing
- o History of protest against French testing in the Pacific
- o Current protests against French tests
- o Environmental effects of testing
- o Lack of justification for the tests
- o South Pacific Nuclear Free Zone
- o Overflight of US by French military aircraft
- o Nuclear Non-Proliferation Treaty and Testing

## 2. GREENPEACE -- ORIGIN AND FOCUS ON TESTING

Greenpeace is a non-profit, non-violent, non-partisan non-governmental organization (NGO) founded in 1971 out of protest against nuclear weapons testing by the US Government on Alaska's Amchitka Island. We are both an environmental and disarmament organization aligned with no political party. In our disarmament campaign, we are currently campaigning for a Comprehensive Test Ban Treaty that bans all tests for nuclear weapons purposes as a step towards the eventual elimination of nuclear weapons.

We accept no money from governments or corporations and rely primarily on small donations by our supporters. We currently have approximately 4 million official supporters worldwide and 1.7 million in the United States.

Although Greenpeace failed to halt the Amchitka explosion, we motivated

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massive public indignation and opposition to the tests that within a year the site was closed and the remaining six tests canceled.

In 1972 and 1973, Greenpeace sailed to French Polynesia to protest atmospheric testing by the French. We have since grown into an international disarmament and environmental organization with offices in over 20 countries worldwide. In addition to nuclear weapons testing and disarmament, we currently work on such issues as ocean ecology, toxic waste, and energy. Although we are publicly perhaps best known for our non-violent direct actions, we do extensive research, prepare scientific documents, lobby in domestic and international fora, and organize at the grassroots level.

In many respects, Greenpeace has been a leader in protesting the current series of French tests. On September 1, 1995, in the spotlight of international attention, two Dutch-flagged Greenpeace vessels -- the SV Rainbow Warrior and the MV Greenpeace -- were seized by French commandos during peaceful protest at Moruroa. For more than six days, thirteen Greenpeace crew members were held as the two vessel were towed to Hao, approximately 200 nautical miles to the northwest. This detention of Greenpeace staff was in clear violation of French law which prohibits detention without charge for more than 48 hours. To this date there have been no charges.

On October 1, 1995, French commandos once again seized another Greenpeace vessel, the US-flagged sailing ship Manutea. The seizure took place in international waters, beyond the 12-mile exclusion zone around Moruroa. Once again, no charges were brought and as best as can be determined, the ship remains under French custody at Moruroa. In spite of repeated requests for information and help in getting the US-flagged ship released, the US State Department has done little in the way of assistance. We once again request the aid of the US Government in seeking the release of the Manutea.

Greenpeace has now brought suit in both French and US courts against France for the seizure of the vessels and illegal detention of crew members.

### **3. FRENCH NUCLEAR TESTING -- A HISTORY OF OPPOSITION**

Since our organization's inception, we have vigorously opposed nuclear weapon testing in the South Pacific. We have joined with thousands of people from the region and with governments around the world in our protest. Protest has been wide-spread and continuous since testing began in the South Pacific and recent protests are in many ways a culmination of two decades of outrage against the French testing of nuclear weapons on the soil of the Polynesian people. A review of the protest is pertinent.

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In 1958, President Charles de Gaulle authorized testing of nuclear weapons in the Algerian desert. France had chosen Algeria as it was a desert location not on French soil. At that time, French Polynesia was excluded from consideration as a test site since there was no airport and it was too distant from mainland France. Four atmospheric tests and 13 underground tests were conducted in the Sahara between 1960 - 1966.

While the US, UK, and the USSR agreed in 1963 to the Partial Test Ban Treaty (PTBT), which barred nuclear explosions in the atmosphere, outer space or underwater, both France and China refused to sign the treaty.

After Algeria won its independence, France was forced to find another test site, though under agreement with the Algerian government, testing continued until 1966. President de Gaulle secretly chose Polynesia as the new test site in 1962, in part basing his determination on the low population density in the region. In spite of unanimous opposition by the Polynesia Territorial Assembly (TA) and protest by Japan to the United Nations, France pushed ahead with creation of a Polynesian test site. The first blast occurred on July 2, 1966 -- an atmospheric explosion detonated on a barge anchored in the Moruroa lagoon -- and on July 19, 1966, the first blast was conducted at Fangataufa, the second atoll chosen to comprise the Pacific Testing Center (CEP) which is just 40 kilometers from Moruroa.

In September, 1966, de Gaulle visited Tahiti to witness a test. John Teariki, Tahitian deputy to the French National Assembly, in a moving plea to de Gaulle said, "No government has ever stopped nuclear testing until having acquired all the atomic weapons it wanted. No government has ever been honest enough nor had the cynical frankness to admit that its nuclear testing entails health hazards. No government has ever hesitated to expose other peoples -- particularly if they are small and defenceless -- to these dangers." After delays due to the wind blowing towards populated islands, de Gaulle insisted that the weapon be detonated. On September 11, a 120-kiloton bomb was detonated. Radioactive fallout from this explosion reached islands west of Moruroa and as far as Western Samoa, 2000 nautical miles to the west.

In 1967, the Papette town council adopted resolutions against testing and in turn was threatened by the appointed governor of French Polynesia that it "cannot make public any protest or petition" and has thus committed an illegal act.

On August 24, 1968, France detonated its first thermonuclear weapon at Fangataufa, a 2.6-megaton blast that so seriously contaminated the atoll the French did not use it for the next six years.

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During this time, protests against the testing continued to build, and by mid-1971, the governments of New Zealand, Fiji, Tonga, W. Samoa, the Cook Islands, Nauru and Peru had all protested to France about the tests. By June, 1972, the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) stated that a "paucity of data" prevented the body from coming to any conclusion about the environmental effects of the tests. In that same month, the UN Conference on the Human Environment held in Stockholm condemned the tests.

By mid-1972, trade unions in both New Zealand and Australia had called for a ban on French goods and placed a boycott on French planes, ships, mail and telecommunications. In November, both New Zealand and Australia made a joint petition to the International Court of Justice (ICJ) in The Hague, requesting an interim injunction against the tests. Fiji joined the case in 1973. In June, they urged France to avoid conducting tests since they had resulted in the deposit radioactive fallout on Australia and New Zealand.

During 1973, anti-testing protests spread to France itself, with two of the main trade unions representing three million workers objecting to the tests. In May, at a World Health Organization (WHO) meeting in Geneva, 82 nations, including the UK and USSR vote for a resolution deplored all atmospheric tests. The US plus eight others abstained from the vote and only France, Albania, and Upper Volta voted against.

In July, 1973, France ratified the Treaty of Tlateloco, which created the first nuclear weapons free zone (NWFZ) in Latin America and the Caribbean. However, France continued to fly nuclear weapons components over the zone. Those flights continue to this day.

In the same month, Peru broke off diplomatic relations with France, expressing concerns about contamination of the atmosphere which would endanger the country's marine and natural life. In August, the Peruvian Atomic Energy Control Commission claimed it detected atomic radiation from the tests in Peru itself.

In August, 1975, a Greenpeace protest vessel entered the "security zone" around the test site and one crewman was injured by a French commando boarding party. Photos of the boarding were clandestinely taken by a Greenpeace crew member and the images provoked international outrage at France's testing program, including a formal protest by New Zealand.

In June 1974, President Giscard d'Estaing declared that from 1975 onwards only underground testing would be conducted in the South Pacific but that a last series of

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atmospheric tests was necessary before testing moved underground. On June 8, 1975, the first underground test was carried out at Fangataufa, a 8-kiloton blast exploded in the core of the atoll at a depth of over 600 meters. In April, 1976, the first underground test was registered at Moruroa.

With testing moved underground international protest subsided, yet in Polynesia protests continued as reports surfaced of radioactive contamination of both workers and the environment.

On July 25, 1979, an incident occurred which once again put the testing program at the center of international concern. A nuclear weapon became stuck half-way down in the 800-meter drill shaft at Moruroa but was detonated anyway, resulting in an explosion which registered 6.3 on the Richter scale and tidal wave which injured several people. Dr. Chris Burgess, a geologist at Victoria University, New Zealand, stated on television that radiation leakage from the blast was likely. He calculated that the explosion initially created a cavity 140 meters across and shattered a vast zone of rock above it which collapsed back into the cavity. He theorized that a massive chunk of the atoll must have fallen outward and down, a subsidence which would have caused the tidal wave. Workers on Moruroa stated that after the blast, a crack appeared on the atoll's surface which was 40 centimeters wide and 2 kilometers long. Subsequently, the Territorial Assembly called on the French government to set up a commission to investigate the accident and the Cook Islands delegate to a Commonwealth Association conference pleaded with France to stop "flushing its toilet" only 700 miles from his country's doorstep.

In 1981, a movement for nuclear-free zone in the region began. A regional trade union delegation in May in Vanuatu called for vigorous opposition to the entire nuclear testing cycle, including storage or nuclear weapons an dumping of nuclear waste. The South Pacific Forum (SPF) passed a resolution in August which urged France to stop testing and to provide full details of the effect of its past testing activities on Pacific people and the environment. In September, the Pacific Conference of Churches affirmed its commitment to a Nuclear Free Pacific.

In late 1981, protests among the test site workers themselves indicated that environmental problems might be widespread at the test site. The union at the site demanded that the French Government lift the veil of secrecy concerning nuclear contamination of the atoll but it received no response from the Commissariat a l'Energie Atomique (CEA), which is in charge of the test site. Nonetheless, three CEA engineers spoke out and reported that radioactivity levels had increased at Moruroa, that a large radioactive rubbish heap of 30,000 square meters existed on the north beach and that the

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atoll sank about 2 centimeters after each blast.

In August, 1982, the South Pacific Forum once again protested the testing by passing a resolution urging France to immediately cease its nuclear testing in the Pacific.

During 1982 and 1983, public protests in Tahiti against testing grew and on March 30, 1983, the New Zealand Herald reported that CEA officials admitted that "Moruroa is beginning to show signs of wear and tear from the tests of the past decade."

With the backdrop of growing protest for independence in the French colony of New Caledonia, Greenpeace announced on March 1, 1985 that it would begin a campaign to halt nuclear testing by sending its flagship, the Rainbow Warrior, to the Marshall Islands and Moruroa. In May, the Rainbow Warrior evacuated 320 people from Rongelap atoll. The Marshallese islanders who lived there blamed their high rates of thyroid disorders, leukaemia and other health problems on the fallout from US nuclear tests 30 years earlier.

On July 7, 1985, the Rainbow Warrior arrived in Auckland, New Zealand, to a large welcome as it prepared to sail for Rarotonga in the Cook Islands (where the SPF meeting is to be held) and the on to Moruroa. On July 10, two powerful limpet mines tore through the hull of the Rainbow Warrior, causing the ship to sink in just four minutes and resulting in the death of one crew member, photographer Fernando Pereira.

Painstaking police work by New Zealand authorities discovered that the mines had been placed by frogmen from the Direction Generale de la Securite Exterieure (French Secret Service). As a result of the investigation, two French agents were arrested and charged with murder. They were convicted and sentenced to ten years imprisonment on Hao, a French military atoll some 200 nautical miles from Moruroa. Most importantly, world attention was once again focused on the French testing program.

In July 1985, eight countries of the South Pacific Forum signed the South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga).

On September 25, 1985, Prime Minister Hawke of Australia condemned the French tests and challenged the US to join in condemnation of French actions in the South Pacific. The speech by Hawke is followed in New York a few hours later by the Australian Ambassador Rawdon Dalrymple, who warned that the US "If you want the South Pacific to become an area where the Soviet Union, Cuba and others of that stripe can find fertile ground for anti-US, anti-West propaganda ... then continue with a policy of indifference to what the French are doing there ... I would urge you to use your

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enormous influence to persuade the French to stop nuclear testing in the South Pacific."

At the 40th anniversary of the United Nations in October 1985, there was also a strong denunciation of French nuclear testing. Prime Minister Mara of Fiji said, "We value our relations with France ... but nothing can deflect us from complete, utter, outright condemnation of her disregard for Pacific countries' protests and, we believe, for their safety." The Chilean ambassador joined in the protest, saying that French testing "represents a grave danger for the people, the environment and natural resources."

In a push to get the nuclear weapon states to quickly sign the protocols to the Treaty of Rarotonga, in January and February 1986, a delegation from five countries (Australia, Cook Islands, Fiji, Nauru, and Papua New Guinea) visited Paris, Moscow, Peking, London, and Washington to consult on the draft protocols to the treaty. France, the US, and the UK were urged to sign a protocol, promising to avoid the manufacture, stationing or testing of nuclear explosives in the treaty zone. On November 10, New Zealand ratified the treaty stating, "It is proof that progress in arms control is possible if countries have the determination and political will to make it happen...."

On December 15, 1986, Russia signed protocols two and three of the Treaty of Rarotonga. In February, 1987, the US decided not to sign the treaty, expressing "concern about the spread of nuclear free zones" and claiming that US military interests would be affected if it signed.

In June, 1988, the Environmental Committee of the European Parliament passes a resolution calling for an independent, international commission of medical and scientific experts to be sent to French Polynesia. The International Physicians for the Prevention of Nuclear War (IPPNW) urged the Parliament to: 1) evaluate all health statistics provided by the French in order to determine if there is an adverse health effect of nuclear test site workers; 2) evaluate the health statistics for all French Polynesians and give an opinion as to the reliability of the true state of health of the people and; 3) evaluate all past scientific reports pertaining to the nuclear weapons test program and determine the geologic integrity of Moruroa Atoll and the validity of French claims that the testing program constitutes no environmental or health risk. No independent study was carried out as the European Parliament narrowly rejects the proposal.

In May 1989, an article by Richard Ullman, Professor of International Affairs at Princeton University, entitled "The Covert French Connection," appeared in the journal *Foreign Affairs*. The article examined clandestine assistance from the United States to France on its nuclear weapons program, and reported that, due to environmental and

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political problems, the US had offered France use of the Nevada Tests Site, though France had refused. Ullman wrote that experts from the US nuclear weapons laboratories and the US test site went to the South Pacific to offer advice to the French. The extent of participation by US personnel at Moruroa or French personnel, however, was not disclosed.

Although Ullman's article is still shocking, nuclear weapon development cooperation between the US and France is allowed to some extent under the Atomic Energy Act of 1954. Section 91 allows for the US to provide assistance to a foreign country in a program involving "nonnuclear parts of atomic weapons provided that such nation has made substantial progress in the development of atomic weapons...". Under the same section, the US can permit foreign countries the use of "utilization facilities for military applications." It is time these provisions of the Act were reviewed as they run counter to the purpose of Article I of the Nuclear Non-Proliferation Treaty (NPT) and could be interpreted as a such future NPT reviews of progress toward disarmament.

Throughout 1989 and 1990, both formal and informal protests grew, and finally drew a response from France. In May 1990, President Mitterand said that France would lift the veil of secrecy around nuclear testing and announce the timing of future nuclear explosions. He repeated that the tests caused no harm to the environment and that France wanted to work more closely with neighboring countries to protect the environment.

In April 1992, France announced that it would join with the US and Russia in the moratorium on nuclear weapon tests. France's commitment to that moratorium held until June 13, 1995, at which time President Jacques Chirac announced a series of eight tests to be held at the South Pacific test site.

#### 4. CURRENT PROTESTS AGAINST FRENCH TESTS

Outrage against the breaking of the testing moratorium by France was swift and steady. Since the announcement on June 13, 1995, over 158 countries have condemned the tests, with only the United Kingdom supporting President Chirac's decision. Greenpeace alone gathered around the world over 7 million signatures against the tests and most importantly, polls in France consistently show that between 60% and 70% are against the tests.

Actions taken by individual governments or regional associations are almost too numerous to mention. Most notably, the South Pacific Forum in September adopted a resolution against the tests and the 53 countries of the Commonwealth passed a

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statement at their Heads of Government meeting on November 12 in Auckland, New Zealand which "urged the immediate cessation" of testing and welcomed the decision by the US, UK and France to sign the protocols of the South Pacific Nuclear Free Zone.

Internationally, the sentiment of many members of the public and political leaders was summed up when President Muriyama of Japan asked of the French why they didn't test in metropolitan France if the tests were so safe.

In the United States, reaction against the tests has been overwhelming. President Clinton has expressed "regret" at the tests and newspapers around the country have editorialized against them. In addition to numerous demonstrations at the French Embassy in Washington, demonstrations have taken place in front French consulates in a dozen cities around the country.

Greenpeace has not been able to find any support for the tests in the United States among either the public or the US Congress. We are not aware of any polling on the tests in the US, but it seems certain that a majority of the public would be opposed to them. The only backhanded support for the tests which we have seen has been through a very few newspaper articles and editorials attacking Greenpeace for our non-violent action at the test site.

In the US Congress, numerous letters have been sent by both sides calling for an end to the tests and to rapid agreement to a Comprehensive Tests Ban Treaty. A number of Republican and Democratic members from the Subcommittee on Asia and Pacific have signed these letters.

In the House of Representatives, a resolution sponsored by Representative Faleomavaega against French nuclear testing -- House Congressional Resolution 80 -- moved through the Asia and Pacific Subcommittee as well as the International Relations Committee and now awaits action by the full House. This resolution, which addresses the environmental and proliferation risk presented by the French tests, should be passed by the House. Representative Bereuter and the Asia and Pacific Subcommittee is to be congratulated for moving this resolution to the full committee and for giving it the bipartisan support it deserves.

In the US Senate, on August 11, 1995, an amendment to the Fiscal Year 1996 Defense Appropriations Bill urging France to abide by the testing moratorium and not to proceed with the tests was adopted. We applaud Senator Akaka, who introduced the amendment, and the Senate for adopting this language.

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## 5. ENVIRONMENTAL PROBLEMS AT THE TEST SITE

Since 1974, over 180 nuclear blasts have been detonated in the atmosphere and underground at the Moruroa and Fangataufa test sites. During these tests, hundreds of pounds of plutonium and deadly fission products have been released both into the atmosphere and underground. While the French Commissariat a L'Energie Atomique (CEA) claims that there is no environmental contamination at the two atolls and that the tests are safe, there is much evidence to the contrary.

The CEA maintains, without documentation, that the underwater nuclear blasts result in such a massive quantity of heat that the surrounding basalt rock is melted and the following solidification of the basalt contains all of the radioactive products. Yet this process is clearly not well-understood and completely unpredictable under the testing conditions. Cracking of the basalt base of both atolls has occurred and more blasts could well cause fracturing of the atolls with subsequent release of the radioactive materials. Additionally, quantities of radioactive and contaminated materials have been disposed of in an unknown fashion by the French.

France has allowed several scientific teams to have extremely limited access to Moruroa for cursory investigations and these teams have uniformly pointed to disturbing evidence about leakage of nuclear material and damage to the atoll. Following is a summary of some of the findings:

a. In 1982, French scientist Professor Haroun Tazieff and an investigative team was allowed to go to Moruroa on a preliminary mission. He reported that he could not verify much of the data given to him by French authorities and expressed concern about long-term containment of radioactive materials underground.

Tazieff recognized a number of problems with the French environmental monitoring program, including: 1) monitoring did not permit evaluation of the quantity of radioactivity released, nor predictions on the effect on the marine environment; 2) virtually no studies had been undertaken by the French of the sea currents around Moruroa and their subsequent impact on the migration of radionuclides in the marine food chain and; 3) French technicians did not monitor sea water surrounding the atoll, nor test for radiation in the immediate vicinity of the test shafts during an explosion.

Professor Tazieff recommended that an in-depth follow-up mission take place, but that has still not occurred.

b. In 1983, a team consisting of scientists from New Zealand, Australia, and

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Papua New Guinea, led by Dr. Tony Atkinson, was allowed a four day visit to Moruroa, during which time they were permitted to conduct only one experiment. The Atkinson Report concluded that venting of radionuclides occurred at the time of weapon detonation and detected elevated levels of radioactive tritium most likely due to venting or underwater leakage.

The Atkinson Report also expressed concern about the structural integrity of the Moruroa and warned that continued testing might create pathways of leakage of radioactivity into the marine environment. "At the underground test sites, water is available for leaching the radioactive material (which can be equated to high-level waste). Mechanisms exist for the transport of this contaminated water to the biosphere at least in the long term."

The report further concluded that the structural integrity of Moruroa had been impaired by fissuring, subsidence and submarine slides, thereby bringing into doubt the ability of the upper layers of the atoll to serve as a barrier against radiation release.

The French authorities reported to the Atkinson team that the Moruroa lagoon contained between 10-20 kilograms of plutonium, much of which could have come from atmospheric tests (which were halted in 1974).

c. In May 1985, the US Central Intelligence Agency (CIA) issued a report entitled, "French Underground Nuclear Testing: Environmentally Safe and Likely to Continue" which, although favorable to the testing, stated the "French do not put steel liners in their emplacement shafts, and some minor gas leakage into the surrounding geologic structure is inevitable." The report went on to say that "there is always a possibility that a nuclear test will result in a massive blowout of radioactive debris." It is unknown if a more current analysis has been conducted by the CIA.

d. In 1987, a French team led by world-renown oceanographer Jacques Cousteau found solid evidence of structural damage to the Moruroa atoll. Cousteau observed spectacular cracks and fissures in the atoll as well as underwater slides and subsidence of the atoll. In his report, Cousteau commented that due to the presence of the fractures and water that such a place was the "worst choice" for a site for containment of radioactive waste, thereby not meeting the strict criteria needed for containment of such dangerous materials. He wrote: "The premature and accelerated aging of the atoll explains certainly, to a greater extent the next move of the larger nuclear tests to Fangataufa atoll..."

Commander Cousteau was able to take a very small number of water, sediment,

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and plankton samples and found heightened levels of iodine-131, plutonium-239 and cesium-134. No reasonable explanation was given to Cousteau by the French for the presence of these materials. He recommended further study and declassification of much defense information classified as "secret."

Just days before the first French test on September 5, 1995, Cousteau resigned his appointment to a prestigious governmental review panel established to oversee projects effecting the French environment. In handing in his resignation to President Chirac, Cousteau stated that he was concerned about the long-term effects of the testing and angry that his panel had not been consulted about the environmental effects of the testing series.

e. In 1988, M.P. Hochstein and M.J. O'Sullivan of the School of Engineering at the University of Auckland (New Zealand) published a report entitled "Geothermal Systems Created by Underground Nuclear Testing: Implications for Long-Term, Direct Effects of Underground Testing," which highlighted possible short-term and long-term effects from the testing. The report stated that a long-term effect could be the establishment of "artificial geothermal systems" resulting in the "leaching of radionuclides from explosion chambers." The scientists noted that information on the long-term effects was ill-documented.

f. In 1991, US scientist Norm Buske, in a study for Greenpeace, conducted sampling of plankton outside the 12-mile exclusion zone at Moruroa. The samples, taken downcurrent from the test site, yielded positive results for the isotope cesium-134. As this artificial isotope has a two year half-life, Buske said that its presence indicates underwater leakage. Buske concluded that it was critical that further sampling be conducted, though that has not been allowed to date by French authorities.

g. In August 1991, a report on sampling done by the International Atomic Energy Agency (IAEA) was released by the French Embassy in Wellington, New Zealand. The analysis of three water and two plankton samples -- which were analyzed by the IAEA's laboratory, a French laboratory, and the US Department of Energy's Lawrence Livermore National Laboratory -- showed elevated levels of plutonium-239 and plutonium-240. The IAEA concluded that the radiation could be coming from "some source in addition to global fallout," but refused to make the link between the test site and said that the plutonium came from "unknown sources."

h. In August 1995, a panel of 20 Australian scientists was commissioned by John Faulkner, Australian environment minister, to analyze the impact of testing on the atolls. Complaining that access to information about the tests was limited, the scientists stated

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that most of the data released so far by the French was mostly irrelevant and inadequate. They concluded that Moruroa had been physically damaged from the tests and that in a worst case scenario, radioisotopes from the blast chambers could reach the ocean in 25 to 50 years. Based in part on this study, environment ministers from a number of South Pacific countries called on the French to give "full and unfettered" access to test data.

i. In August 1995, the international relief agency Medecins Sans Frontieres (MSF) published a report on the status of public health in French Polynesia due to the testing. Expressing concern about the 8,000 to 13,000 Polynesians who have been taken to the test sites to work in unskilled or semi-skilled jobs, the medical organization said that they were "alarmed" at the French authorities lack of concern about long-term health effects of the testing. "Whatever the real level of risk, the French authorities are not fulfilling their ethical responsibilities toward the populations that have been potentially exposed. The inadequacies in the medical data do not justify their conclusion that the tests are harmless." MSF said that not all cancers are being reported and that a database of cancers was not established until 1985.

Given the disturbing nature of the above scientific reports, the European Commission requested on September 11, 1995, that France stop the test program until France could prove that the tests are safe. Under Article 34 of the EURATOM Treaty, to which France is a party, EC scientists asserted that the possible long-term leakage of radioactive elements is the most significant environmental risk. They further stated that a reliable risk assessment would require access to detailed data about movements in the rocks and geologic structure, information which they have not been privy to.

Acceding to the demand of the EC, France has allowed a three-person scientific "verification mission" to go to Moruroa to review the French monitoring and sampling program. That team was in French Polynesia for approximately two weeks at the end of September and the beginning of October, 1995. The team was allowed to visit Moruroa but was denied access to Fangataufa.

The EC team was denied essential information on geologic and hydrologic aspects, long-term prospects for leakage, exposure from atmospheric testing, follow-up studies on health effects and restoration possibilities for the atolls. They also did not take any samples for independent analysis nor conduct any underwater or seismic studies as to the geologic state of the atolls.

On October 24, 1995 the European Commission voted not to stop the French testing program in what Greenpeace regards as a misinterpretation of European law.

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France has promised that once the testing stops that a scientific team will be allowed in to assess the environmental damage. In order for a truly scientific survey to be conducted, an unrestrained sampling and monitoring program must go forward, along with a geologic survey to determine the status of cracks and faults in the atolls. Although years late in coming, such an in-depth independent review is essential if the health and environment of the Pacific people is to be protected into the future.

#### 6. NO JUSTIFICATION FOR THE TESTS

When President Chirac made the announcement on June 13 that nuclear weapon tests would be conducted, he originally stated that the tests were not for development of any new warhead and were for safety and reliability of the French nuclear stockpile and for development of technology of simulation. Yet, one month later, Chirac admitted that some of the scheduled explosions were for testing a new warhead.

It has been reported that the first test was for the TN-75 warhead for the new M-45 submarine-launched missile, which has been under development since the mid-1980s. This warhead is for use in the Triomphant-class submarines, the French equivalent of the US Trident program. It is unclear if any other of the tests could be used for development for the more advanced M-5 submarine-launched missile, but as the second test at Fangataufa had a yield of approximately 110-kilotons it could have been for this more powerful warhead.

It has also been reported that some of the tests could be for the development of a new air-to-surface missile, the ASLP (Air-Sol Longue Portee). But it makes little sense to test for this new warhead with so few tests, which could result in operational problems later in case it were deployed.

Like the US stockpile, the French stockpile, as far as is known is "safe." As a large number of tests have been conducted on all earlier deployed French warhead designs and as the TN-75 has likewise undergone a number of tests, one or two tests on this warhead will not likely make it more safe. If problems do arise later with this warhead, or any other warhead, then it should be withdrawn from service if there is a real interest in safety. The same can be said of the US stockpile.

In the development of technologies which will aid France in its "stockpile stewardship" program, France lags behind the United States. US officials are reported to have offered French assistance in the form of computer codes which provide information on the detonation of warheads and to have been helped in the development of a new weapons-research laser facility in France. This laser facility is part of a program called

PALEN (Preparation a la Limitation des Essais Nucleaires), which France maintains will be used to certify the safety of the nuclear weapon stockpile as well as for modernization of weapons.

France could gather detonation data on its warheads simply for use in a stockpile safety program by gathering information from past tests. More blasts are not necessary if France is using the tests mainly for collecting information for what it bills as its "simulation" program. As safety and reliability of the stockpile can be maintained with information already available and as laboratory "simulation" of weapons is out of reach of France, the tests should be halted as they undermine international non-proliferation and disarmament goals.

## 7. SOUTH PACIFIC NUCLEAR FREE ZONE

The South Pacific Nuclear Free Zone (SPNFZ) Treaty, or Treaty of Rarotonga, is an agreement by 11 countries (Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Papua New Guinea, Western Samoa, Solomon Islands, and Tuvalu) which bans the stationing or testing of nuclear weapons in the zone. It is named after Rarotonga, the capital of the Cook Islands, and went into effect in 1986.

The treaty is validated by the Nuclear Non-Proliferation Treaty (NPT), which in Article VII establishes the right of countries to establish nuclear free zones (NFZs): "Nothing in this treaty affects the right of any group of States to conclude regional treaties in order to assure total absence of nuclear weapons in their respective territories."

In the resolution passed at the conclusion of the NPT review conference in May, the beneficial effects of nuclear weapons free zones was affirmed. The Review Conference stated "The conviction that the establishment of internationally recognized nuclear weapon free zones, on the basis of arrangements freely arrived at among the states of the region concerned, enhances global and regional peace and security is reaffirmed."

The review conference went on to encourage the establishment of nuclear free zones in "regions of tension" and stated that "additional nuclear weapon free zones by the time of the Review Conference in the year 2000 would be welcome."

Most importantly, the Review Conference stated that "The cooperation of all the nuclear weapon states and their respect and support for the relevant protocols is necessary for the maximum effectiveness of such nuclear weapon free zones and the

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relevant protocols." In other words, the nuclear weapon states were encouraged to sign the protocols of existing and future nuclear weapon free zone treaties.

The SPNFZ treaty, like the Treaty of Tlatelolco (Latin America Nuclear Free Zone Treaty), has three protocols written with the specific aim of enlisting the support of the nuclear weapon states. The protocols are as follows:

Protocol 1: Prohibits each Party from engaging in activities which "relate to the manufacture, stationing and testing of any nuclear explosive device within those territories..."

Protocol 2: Commits each Party "not to use or threaten to use any nuclear explosive device against: a) Parties to the Treaty; or b) any territory within the South Pacific Nuclear Free Zone..."

Protocol 3: Requires each Party "not to test any nuclear explosive device anywhere within the South Pacific Nuclear Weapon Free Zone."

The SPNFZ establishes, in accordance with the NPT, that the International Atomic Energy Agency (IAEA) will oversee application of safeguards in the nuclear free zone.

Russia and China have signed protocols 2 and 3 and on October 20, 1995, the US, UK, and France agreed to sign the treaty in the first half of 1996, with ratification coming thereafter. Thus, the three non-signatory nuclear weapons states will not sign the treaty until France has finished conducting its current series of nuclear tests.

While the announcement by the US, UK, and France is clearly welcome, the signing is far too late. In particular, the US reluctance to sign the protocols now appears to give diplomatic cover to France, which has backed itself into a diplomatic corner by conducting the tests. Greenpeace believes that the US should unilaterally sign the treaty now.

Given the renewal of the NPT and its provisions for nuclear free zones, any hesitance to sign the SPNFZ Treaty could serve to undermine the NPT itself. As there is no controversy over the legitimacy of the SPNFZ, refusal by the three countries to sign as promised will only raise questions about their commitment to the NPT.

As the three protocols were written to accommodate the nuclear weapon states, there is nothing in them that would prevent transit through the zone or docking in the

zone by nuclear powered vessels or surface vessels or aircraft carrying nuclear weapons. (New Zealand is a special case as it does not allow any port calls by vessels carrying nuclear weapons as a matter of domestic policy.)

Given that Cold War feuding over regions has ceased and the Soviet Union no longer has influence in the South Pacific, the US had little reason not to promise adherence to the SPNFZ. While a signing of the protocols will in no way impede ongoing or planned activities of the US military – specifically nuclear-powered submarines armed with nuclear-armed missiles – this act will surely boost the image of the US in a region where such an improvement is needed. As France has badly harmed its status among the countries of the Pacific, the US actually has an opportunity to increase its status, and to sign the protocols immediately would give the biggest boost.

In the Congress, Representative Eni Faleomavaega of American Samoa has long fought for the US to sign the Treaty of Rarotonga. He is to be congratulated for his farsighted efforts to bring the US in compliance with the treaty. Being from the region, he well knows the treaties importance to the people of the region and the nuclear weapon states have much to gain in becoming more sensitive and aware of the position of him and many other leaders throughout the region.

Representative Faleomavaega is not alone in his efforts on behalf of the South Pacific Nuclear Free Zone. Senator Claiborne Pell, ranking member of the Senate Foreign Relations Committee, and Senator Craig Thomas, chair of the East Asia and Pacific Affairs Subcommittee, sent a letter to President Clinton on August 10, 1995, appealing to the president to reconsider the US position on the treaty. The senators' appeal seemingly was a main ingredient in causing President Clinton to adopt his new policy on October 20. For their efforts, Senators Pell and Thomas are to be congratulated.

#### 8. US COMPLICITY? OVERFLIGHT OF US BY FRENCH MILITARY AIRCRAFT

Since early September, it has come to public attention that French military aircraft bound for the South Pacific have been overflying the United States. The State Department allows such overflight and gives diplomatic permission for their passage.

It is unclear what may be on the aircraft as State Department permission forms filled out by the French are brief in their questioning, relying on French honesty to designate if hazardous materials are being carried. Generally, the French list "military equipment" on the request forms. As a spokesman for the Bureau of Political-Military Affairs at the State Department admits, there is no way to determine with accuracy what

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is on the aircraft. It is possible that they could be carrying nuclear weapons components and plutonium.

An article on September 5, 1995, in the French paper *Le Monde* said that France flies nuclear weapons components and fissile materials over the US bound for the test site. It has been impossible to confirm this report though rumors persist. The State Department has been able to confirm that between late April and early October that between 15-18 flights had taken place and that some of them stop to refuel in the Los Angeles area, with stopovers at the LAX commercial airport.

Greenpeace heard from a French Government source that the *Le Monde* story is indeed true. According to this source, the weapons components are flown via Los Angeles to the military installation on Hao atoll, some 200 nautical miles northwest of Moruroa, approximately two weeks before the scheduled nuclear test. The weapons are assembled on Hao and then transported to the test site.

Under US law, passed in 1987, it is illegal to transport plutonium over the United States "from a foreign nation to a foreign nation" unless the Nuclear Regulatory Commission has approved a container which can survive a crash from "maximum cruising altitude."

We find it abhorrent that the US would allow any overflight of a French aircraft carrying any type of material or equipment used to help in the conducting of nuclear weapon tests. Along with other arms control and disarmament groups, we wrote to President Clinton on September 14, 1995, asking that he not permit such flights. Likewise, Greenpeace has written to Assistant Secretary of State Thomas McNamara, who oversees the Bureau of Political-Military Affairs at the State Department, asking that the US halt approval for such overflights unless confirmation is given that no cargo which aids the French tests - particularly nuclear weapons components or fissile material - is on the aircraft.

## 9. NUCLEAR NON-PROLIFERATION TREATY AND TESTING

The Nuclear Non-Proliferation Treaty (NPT) is clear in regards to a call for an end to nuclear testing. The preamble states that it is a goal to "achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end." The halting of tests explosions was to be undertaken under Article VI, which calls for "negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date."

At its renewal in 1995, the parties to the NPT reaffirmed the preamble and went further in regard to testing. The review conference called for the completion no later than 1996 of a universal, verifiable Comprehensive Test Ban Treaty. The parties went on to say that "Pending the entry into force of a Comprehensive Test-Ban Treaty, the nuclear-weapon States should exercise utmost restraint."

Clearly, neither France nor China has exercised "utmost restraint" in relation to the testing of nuclear weapons. China tested a weapon just days after the conclusion of the conference and France's announcement came less than a month after the treaty had been indefinitely extended.

As part of the bargain for supporting (or not protesting against) the indefinite extension of the NPT, many of the non-nuclear countries had a clear understanding that the nuclear weapon states would truly apply "utmost restraint" and halt their testing programs. This lack of restraint has angered many countries and there has been a feeling that a commitment to them has been broken.

The anger caused by the resumption of testing by France and China does not bode well for the review in the year 2000 of the NPT. In 1997, there will be a "mini-review" -- a preparatory conference meeting to begin planning for the Review Conference -- and if a true zero-yield test ban is not in place at that time the entire non-proliferation regime which was reaffirmed this past May could crumble.

#### a. The US Test Program

In this regard, we are also very concerned about the 27 October announcement by the US Energy Department that six tests for nuclear weapons purposes will be conducted in 1996 and 1997. These tests will be conducted 980 feet below ground at the Nevada Test Site, and will include nuclear materials such as plutonium. Greenpeace feels that this policy seriously undermines ongoing negotiations towards a Comprehensive Test Ban Treaty (CTBT), the achievement of which is a priority U.S. foreign policy goal. We urge the cancellation of these tests.

The CTBT negotiations are at an extremely sensitive stage. The scope of the CTBT has not been agreed and verification questions need to be settled. The timing of this announcement, and the fact the tests utilizing plutonium will occur underground at the Nevada Test Site, will prejudge these issues of scope and complicate the verification problem. We also feel these tests are unnecessary. And, despite the fact that the Energy Department tries to characterize them as hydrodynamic, they may be banned by a CTBT.

Greenpeace, SPNFZ Testimony  
15 November 1995

Of course such an announcement may negatively effect the ongoing negotiations for the CTBT in Geneva. As Australian Foreign Minister Garth Evans observed as much when he told the Australian press on 3 November, "The timing of it is unquestionably unhelpful in terms of the Comprehensive Test Ban negotiations that lie ahead.... [t]here is no doubt it has complicated the task of negotiating a Test Ban Treaty next year."

It is quite apparent this decision and its negative implications for U.S. non-proliferation and disarmament policy had not been fully reviewed throughout the government. We understand that in Russia, the Foreign Ministry already has made inquiries to the United States about this announcement, and it is being perceived as a step backwards from the understanding on a zero-yield CTBT reached with President Yeltsin last month in New York.

The Energy Department claims the tests are necessary for maintaining the safety and security of the U.S. nuclear arsenal. While it is true that even after the current arms control agreements with Russia -- START I and START II -- are implemented, the United States plans to maintain a nuclear arsenal of over 6,000 nuclear warheads, it is also true, as noted, that the United States under its obligations to the NPT's Article 6 has committed itself to take further steps in reducing and eliminating its nuclear arsenal.

Clearly a better way than jeopardizing a CTBT with tests that even Energy Department officials admit are not needed in the short term would be to achieve agreements as soon as possible with Russia and the other nuclear weapons states to make further reductions in nuclear weapons. This would obviate the safety and security issue; and would be a major step forward in reassuring nuclear and non-nuclear nations alike that the United States takes its commitments to non-proliferation and disarmament under the NPT as seriously as it expects other Treaty signatories to take theirs.

## 10. CONCLUSION

The public and non-nuclear nations have let their voices be heard that they are tired of nuclear weapons testing and that it is time that such tests be halted. At the Non-Proliferation Treaty Review Conference in May, non-nuclear states expressed the view that their bargain not to acquire nuclear weapons had to be met by the nuclear weapons states with substantial progress toward a Comprehensive Test Ban Treaty (CTBT) by mid-1996 as well as disarmament. French and Chinese tests are an insult to that deal and undermines faith in the NPT and the non-proliferation regime. In order to reaffirm the non-proliferation regime as embodied in the NPT and live up to promises about the CTBT, the current tests must be immediately halted.

There is something deeper afoot with the outrage over the tests. As the life of the Cold war slowly fades away, a global public is becoming more and more impatient with the nuclear weapons states and their lack of compliance with the disarmament commitments which they have made. As we approach the year 2000, and the first review of the indefinitely extended NPT, more progress must be shown toward making the world safer from nuclear weapons. Regional security measures must be put in place to reflect the growing view that nuclear weapons are a threat to international security. A significant step in this direction would be the creation of more nuclear free zones and the recognition of such zones by the nuclear weapon states. Thus, an immediate signing of the South Pacific Nuclear Free Zone Treaty protocols will serve as a strong symbol that disarmament commitments are being honored.

Of course, in addition to creating more nuclear free zones, the nuclear weapons states need to take concrete steps towards reducing their nuclear arsenals. In fact, the best way to avoid conflict with regional nuclear free zones would be to eliminate the class of weapons that pose the most problems for observing them, in that their deployment raises the difficult question of transit needs and rights. These classes of weapons would include tactical naval nuclear weapons aboard ships and submarines, aircraft carried weapons, and those aboard strategic submarines.

In regards to the first class, this step could easily be realized. Already, the U.S., U.K. and Russia have stopped carrying tactical nuclear weapons aboard their naval vessels during peacetime (France is still thought to do so, however). The U.S. will retain only some 350 nuclear-armed submarine launched Tomahawk cruise missiles for redeployment during crises. Rather than retaining these weapons that are lacking a post-Cold War mission, they instead could be offered up for elimination. As for the second class, all U.S. aircraft carried weapons, except approximately 480 nuclear weapons based in Europe and assigned to NATO, have been returned to storage in the United States. To continue the process of reducing the role of aircraft carried nuclear weapons, they should be the next class of weapons subject to elimination.

Finally, although the START II treaty if implemented will allow up to 1750 strategic nuclear warheads to be based at sea -- some half of the U.S. and Russian strategic arsenals -- on nuclear-powered submarines, this large group of weapons should also be considered for elimination in the next round of strategic arms negotiations. Both the U.S. and Russia will need to make decisions about buying a new class of nuclear-powered strategic missile submarines in the next few years. Rather than embarking on such an expensive and environmentally dangerous programs, and to demonstrate their commitment to Article 6 of the NPT, this type of weapon also should be considered for elimination.

CURRICULUM VITAE: RICHARD D. FISHER, JR.

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Mr. Fisher studied at Eisenhower College in New York, where he received a Bachelor's degree with honors in 1981, and at Georgetown University, in Washington, D.C. While studying at Georgetown, Mr. Fisher was a Research Assistant with Georgetown's Center for Strategic and International Studies. For the Heritage Foundation, since 1983, Mr. Fisher has written over 50 studies on challenges to American foreign policy in the Philippines, Japan, Korea, the South Pacific, and Indochina.

During presidential elections in the Philippines in 1986, and in South Korea in 1987, Mr. Fisher served as an election observer.

Mr. Fisher is a frequent commentator on Asian issues for radio and television and has given testimony in the House of Representatives and to the Platform Committee of the Republican Party. His articles have appeared in the Journal of Defense and Diplomacy, The National Interest, Asian Wall Street Journal, Washington Times, American Legion Magazine, International Freedom Review, Hoover Institution Yearbook on International Communist Affairs, Quadrant, and Policy Review.

## NUCLEAR ISSUES IN THE SOUTH PACIFIC

TESTIMONY OF RICHARD D. FISHER, JR.  
SENIOR POLICY ANALYST, THE HERITAGE FOUNDATION  
BEFORE THE  
SUBCOMMITTEE ON ASIA AND THE PACIFIC  
INTERNATIONAL RELATIONS COMMITTEE  
UNITED STATES HOUSE OF REPRESENTATIVES  
NOVEMBER 15, 1995

### INTRODUCTION

Mr. Chairman and members of this distinguished Subcommittee:

I thank you for the privilege of appearing before this distinguished Subcommittee to offer testimony on the decision by the Clinton Administration to sign protocols to the 1985 South Pacific Nuclear Free Zone Treaty (SPNFZT), or Treaty of Rarotonga, and the issue of French nuclear testing in the South Pacific.

My prepared statement will address the issue of the SPNFZT Protocols first and then the issue of French nuclear testing. These issues are old and troublesome business for the United States. In the 1980s Washington was not able to please its South Pacific friends for defensible reasons. Some of these reasons were not particularly germane to the South Pacific region, but related to America's global and wider Asia-Pacific security obligations. Some of these reasons continue to argue against signing the SPNFZT Protocols. By way of introduction, I would like to point out that during the two periods Washington has seriously considered signing the SPNFZT Protocols, the mid-1980s and the mid-1990s, one can draw three parallel observations. These are:

**A problematic security environment.** A relative peace in Asia, including the South Pacific, belies simmering threats to peace.

**Political exploitation of nuclear issues.** Politicians in South Pacific countries have used nuclear issues for political gain in ways that have raised varying degrees of doubt concerning their reliability as allies or friends of the United States.

**Fallout from association with France.** Opposition to French nuclear testing has led to wider opposition to U.S. nuclear policies by South Pacific states.

### THE 1980s, PLUS CA CHANGE...

#### **Problematic security**

In the mid 1980s, the security environment in Asia was relatively benign due largely to America's extended nuclear and conventional deterrent and the strength of the U.S.-led Pacific alliance system. Intelligence satellite downlinks and strategic force

communication facilities in Australia were an important part of our deterrent capability. These effectively contained a considerable Soviet military threat in the region, including a large Pacific Fleet plus its financial and military backing for Vietnam's colonial control of Laos and Cambodia--to include Soviet military access to Vietnamese bases. North Korea posed a heavily armed threat to South Korea while China was a tacit friend against Soviet ambitions.

On an overt level, Cold War competition in the South Pacific revolved around Soviet attempts to gain access for fishing/intelligence ships, as well as greater diplomatic access. But on a less-than-overt level the Soviets and proxies like Cuba and Libya engaged anti-western elements in Australia, New Zealand and the South Pacific. The Soviets openly encouraged anti-American "peace" activists in Australia and New Zealand. Leftist trade unions and political parties, like the Amalgamated Metal Workers in Australia, and New Zealand Socialist Unity Party, many of whose leaders were allied with the Soviets, sought to organize and promote anti-Western elements in the South Pacific islands. This was a matter of some concern both in Washington and in Canberra, and their quiet though effective cooperation kept trouble at bay.

#### **Nuclear exploitation**

This security milieu did not prevent politicians from exploiting nuclear issues for political gain. To preserve unity in the 1983 election the New Zealand Labor Party cut a devil's deal: if the powerful though very socialist trade unions would accept sorely needed free-market economic reforms then a new Labor government would accept trade union-promoted alliance-killing anti-nuclear policies. The Reagan Administration, already engaged in opposing a large-scale Soviet-inspired anti-American "peace" campaign in Europe, could not accept New Zealand's anti-nuclear policies, which challenged the U.S. policy of neither confirming nor denying the presence of nuclear weapons on ships and aircraft. This brought a suspension of military cooperation in 1985 and a U.S. suspension of ANZUS defense obligations in 1986. Then Prime Minister David Lange reveled in playing "David" against the U.S. "Goliath" with no regard for how his policies undermined U.S. global deterrence.

In 1985, then-Australian Prime Minister Bob Hawke was forced to cancel a U.S. missile test in the Tasman Sea following intense opposition by the Left Caucus of his Labor Party. However, Hawke then proceeded to reduce the power of the Labor Left and forged effective alliance cooperation with Washington.

#### **Fallout from association with France**

The anti-nuclear and environmental organizations that became powerful political forces in South Pacific by the early 1980s in many cases received a substantial boost by organizing popular opposition to French atmospheric nuclear testing in French Polynesia. By the early 1980s these movements were affecting the attitudes of the first post-World War Two generations of leaders and voters that were beginning to take power. Popular anger at France helped many of these organizations to broaden their agenda to opposing U.S. nuclear policies.

## THE 1990s, ...PLUS CA MEME CHOSE

### Problematic security

In the mid-1990s, the security environment in Asia continues to be relatively benign due largely to the extended American nuclear and conventional deterrent, in addition to the strength of the U.S.-led Pacific alliance system. After the fall of Soviet communism, in 1991, the Bush Administration declared that U.S. ships would no longer carry nuclear weapons. Satellite downlinks in Australia--which helped shoot down Iraqi missiles during the 1991 Gulf War--are being phased out, though in June, Australia agreed to participate in U.S. ballistic missile defense research. China's looming challenge to the deterrent effect of the America presence in Asia has replaced that of the Soviets. China is building up its nuclear missile arsenal. It also seeks world-class naval and air power that could be used to enforce Beijing's claims to the entire South China Sea. China was not deterred from launching nuclear-capable missiles within 100 miles of Taiwan this July. In response Taiwanese leaders publicly debated whether to build nuclear weapons. North Korea may have a few nuclear weapons, and if it builds many more the risk of further proliferation increases in South Korea and Japan. Asians look at the Clinton Administration's tepid response to China's recent thrust in the Spratly Islands and its missile tests, in addition to perceived insularity in the U.S., and wonder if American disinterest will only worsen troubling security trends.

Could tension or conflict with China ever extend to the South Pacific? It seems unlikely today, but, given the uncertainty and unpredictability that characterize our time it would be unwise to discount even such a remote possibility. In May 1980 China tested its first ICBM northwest of Fiji. For over a decade Taiwan and China have wrangled for diplomatic recognition in the South Pacific. Taiwan maintains a sizable assistance program in the region. Nauru, the Solomon Islands, Tonga and Tuvalu recognize Taipei over Beijing. At the most recent meeting of the South Pacific Forum in September, Chinese Assistant Foreign Minister Yang Jeichi warned members not to recognize Taiwan, saying, "Otherwise, setbacks and difficulties will occur."

### Nuclear exploitation

Again, this security milieu does not prevent South Pacific leaders from seeking to use nuclear issues for political gain. In Australia the Labor Party soon faces a tough election and has sought to increase its support by rallying long-standing opposition in Australia to French nuclear testing. This effort even extended to Prime Minister Paul Keating dispatching his Foreign Minister, Senator Gareth Evans, to International Court of Justice (ICJ) in the Hague to testify for a case on the legality of nuclear weapons. On October 30 Evans argued that it not only should be illegal to test nuclear weapons, but also to possess, acquire and develop them as well. Logic might suggest that Australia should now sever its ANZUS alliance ties with the U.S., a nuclear weapons-armed state. However, Federal Opposition Foreign Affairs spokesman Alexander Downer regards the Evans mission as a "stunt designed to shore up the youth vote...." The conclusion that this was a cynical political exercise is further strengthened by reports that Canberra has assured Washington that Evans' arguments before the ICJ will not affect U.S.-Australian relations.

In New Zealand an anti-nuclear law passed by the Lange government in 1987 remains on the books as a consequence of National Party leader Jim Bolger reversing National's long-standing opposition to the law just before the 1990 election. National's reversal shocked some of its members, but did remove a potentially divisive issue from the election. Still in power today, National so far refuses to change what its leaders regard as a politically popular law. The law states that no New Zealand citizen shall "aid, abet, or procure any person to manufacture, acquire, possess, or have control over any nuclear device." Though the full effect of this law has not been tested, as written it makes illegal direct cooperation between U.S. and New Zealand military forces. While this has not prevented a gradual improvement in U.S. ties with Wellington, U.S. security guarantees under ANZUS remain suspended as does substantive military cooperation.

#### **Fallout from association with France**

Had France's new government led by President Chirac not decided to resume nuclear testing in French Polynesia, it is less likely that Australia's Labor government would have dispatched its Foreign Minister to argue the illegality of nuclear weapons before the ICJ.

#### **WHY SIGN THE SPNFZT PROTOCOLS NOW ?**

On September 17, at the last South Pacific Forum meeting in Port Moresby, Papua New Guinea Assistant Secretary of State for Asia and the Pacific Winston Lord announced there would be an imminent U.S. decision regarding adherence to three Protocols to the South Pacific Nuclear Free Zone Treaty (SPNFZT). On October 20 the Administration announced that it would sign the protocols, possibly by mid-1996, along with Britain and France. The main reasons for the Administration's decision are: 1) to strengthen the Administration's commitment to the extended Nuclear Non-proliferation Treaty; 2) to respond to long-standing requests from the South Pacific that Washington sign the protocols; and 3) to diffuse anger over France's decision to conduct additional nuclear tests in French Polynesia by signing the Protocols jointly with France and Britain.

However, in 1987, the U.S. had long since stopped nuclear testing in the South Pacific, and so reason 2 and 3 should have been just as compelling then as today. Nevertheless, two Presidents, Ronald Reagan and George Bush, declined to sign the SPNFZT Protocols. It is useful to review their reasoning and ask if their reservations have been completely resolved. The questions that follow suggest that the Clinton Administration's decision to sign the SPNFZT Protocols very likely has not been thoroughly considered with regard to long-standing elements of U.S. nuclear deterrent policy. Nor is it likely that the Administration's decision has followed adequate consideration of how this treaty could potentially constrain American military activities.

#### **Admiral Baker's 1987 Testimony And Some Relevant Questions For 1995**

In June 1987, in explaining the Reagan Administration's decision that February not to sign three protocols to the SPNFZT, Rear Admiral Edward B. Baker, Jr., then DoD's Director, East Asian and the Pacific Region, International Security Affairs office, testified that while signing the protocols "...would have increased our short-term

popularity, it would not have furthered the long-term security of the region or advanced the cause of world peace." (p.1) Baker's lucid testimony raises questions for today that proponents of the SPNFZT Protocols must answer:

**1. Is the U.S. nuclear deterrent less relevant today?**

The signatories to the SPNFZT asked all the nuclear powers to sign protocols that would in effect bring them into compliance with the Treaty. An early and not-too-subtle point Baker made in his testimony is that "Nuclear weapons are not all alike." He further noted, "Nuclear weapons under the control of the United States and its allies are weapons that preserve freedom and democracy. In the South Pacific, the uncontested military strength of the Western alliance has guaranteed the region's unique and enviable freedom from armed conflict." (p.3)

While Baker does not make this linkage, these points could be in response to the SPNFZT preamble, which states, "...the continuing nuclear arms race presents the risk of nuclear war which would have devastating consequences for all people." In short, the SPNFZT posits that all nuclear weapons are bad. As in 1987, the U.S. cannot accept this logic in 1995. The U.S. nuclear and conventional deterrent played a decisive role in winning the Cold War and continues to deter potential adversaries today.

Furthermore, the U.S. nuclear deterrent in Asia prevents further nuclear proliferation. Were the U.S. to abide by the SPNFZT logic--carried to an even greater extreme by the Keating government's testimony to the ICJ that all nuclear weapons be made illegal--the U.S. should then undertake unilateral nuclear disarmament. The consequences of such an event would be that Taiwan, South Korea, and possibly Japan would quickly build nuclear weapons in the face of Chinese and North Korean nuclear arsenals. If Australia did not follow suit it would be vulnerable to untold political and economic pressures.

**2. Can the U.S. afford to alter the ambiguity of its nuclear deterrent?**

Baker stated "Deterrence...is established not on what we do but what we can do. When we unilaterally foreclose potential responses to an adversary's challenge, it emboldens our adversaries and increases the risk of war." (p. 3-4). Baker was apparently concerned about the wider consequences of Protocol II, which states, "Each Party undertakes not to use or threaten to use any nuclear explosive device against" Parties to the treaty or territories in the South Pacific Nuclear Free Zone controlled by Parties to Protocol I.

Now, clearly, the U.S. has never and, hopefully, will never have cause to threaten any South Pacific state with nuclear attack. But this obvious point must not be allowed to blind U.S. policy makers to the wider concern that if the U.S. submits to legal restraints on its nuclear strategy in one instance, then, having set such a precedent, would be hard pressed not to do so in the future. As explained by Baker Spring, my colleague at Heritage who analyzes nuclear issues, all Presidents, including Bill Clinton, have made clear that U.S. policy is to deter attack on the U.S. by weapons of mass destruction by reserving the right to respond to such attacks with nuclear weapons. The U.S. has never in the past declared when it will or will not use nuclear weapons. That such ambiguity has continued to serve U.S. interests was most recently demonstrated in the Persian Gulf War. It has been determined that Saddam Hussein chose not to use his large chemical and biological weapons arsenal on U.S. troops because he feared U.S. nuclear retaliation.

Had Washington unilaterally proscribed its nuclear deterrent before hostilities began, Saddam might have used his chemical weapons, causing untold American casualties.

Many who advocate that Washington sign the SPNFZT Protocols note that in signing Protocol II to the 1967 Treaty of Tlateloco, the United States has already set the precedent of accepting limits similar to Protocol II of the SPNFZT. However, there are two differences between SPNFZT and the Treaty of Tlateloco that supporters of the former do not mention. The first point is one of proximity; were a nuclear threat to develop in the Latin American nuclear free zone U.S. forces would very likely not require access to foreign bases in order to provide deterrent protection for the American people. Second, in submitting Protocol II of the Treaty of Tlateloco to the Senate, President Richard Nixon issued a proclamation in which he stated that the U.S. "would have to consider that an armed attack by a Contracting Party, in which it was assisted by a nuclear weapons state, would be incompatible with the Contracting Party's corresponding obligations under Article I of the Treaty." In doing so, President Nixon was seeking to preserve the essential ambiguity of the U.S. nuclear deterrent. Would the U.S. issue a similar proclamation, in effect, stating conditions when it would not honor Protocol II of the SPNFZT? In the current atmosphere of highly emotional opposition to things nuclear, it is very likely that Parties to the SPNFZT would regard such a U.S. proclamation, at the very least, as politically incorrect.

### **3. Should the U.S. be limiting its future military options in the Zone?**

At Washington's insistence, Canberra championed a clause to Article 5 of the treaty which states that each Party "remains free to decide for itself whether to allow visits by foreign ships or aircraft." This was designed to address U.S. concerns with a previous clause in Article 5, that "each party undertakes to prevent in its territory the stationing of any nuclear explosive device," with "stationing" defined as "emplantation, emplacement, transportation on land or in inland water, stockpiling, storage, installation and deployment." The U.S. interpreted this article as placing no effective restraint on the flexibility of U.S. military forces in the zone short of a requirement for basing.

But in 1987 Rear Admiral Baker stated a clear preference that the U.S. not foreclose any military options, especially concerning U.S. territories in the Zone. He said, "Protocol I would restrain the exercise of US defense authority in and for US territory. We do not believe it is wise to foreclose the possibility of 'emplantion, emplacement, transport on land or inland waters, stockpiling, storage, installation, and deployment' of nuclear weapons in US territory within the zone as Protocol I would require."

While some may contend that it is ridiculous to envision any scenario that would cause the U.S. to require "stationing" of nuclear weapons on countries in the Zone, it is not unrealistic to envision scenarios in which U.S. forces would require access to South Pacific facilities. For example, under the SPNFZT, would a severely damaged U.S. aircraft carrier be barred from offloading nuclear weapons in American Samoa? In our recent past the South Pacific was very significant to American military planners. It should be remembered that in 1942 General Douglas MacArthur selected Australia as his strategic redoubt to begin rolling back Japan's conquest of almost all of Asia. Moreover, during World War II New Zealand was a major U.S. military personnel processing point,

and major battles were fought throughout the Solomons, Gilberts, Mariannas, Carolines and Marshall Islands chains.

An associated issue is the possibility that other territories may seek to join become part of the South Pacific Nuclear Free Zone. Having signed the Protocols and accepted the SPNFZT's restrictions on American Samoa, Washington would be hard-pressed to argue against attempts by the Federated States of Micronesia, the Marshall Islands and Guam to join the Zone. Guam was a major staging base for U.S. operations during the Vietnam War and was often considered as a fall-back position after the U.S. left Philippine bases.

If the Marshall Islands were to join the Zone then Article 3 might affect U.S. missile testing activities in the Kwajelien Atoll. Article 3 of the SPNFZT calls on the Parties "not to take any action to assist or encourage the manufacture or acquisition of any nuclear explosive device by any State." Strategic missile delivery systems are an essential part of the U.S. nuclear arsenal. The testing of these missiles could be construed as a violation of Article 3. Restrictions on U.S. missile testing facilities at Kwajelien would constitute an enormous setback for the U.S. nuclear deterrent capability.

#### **4. Can this nuclear free zone be exploited by future adversaries?**

In his 1987 testimony Rear Admiral Baker outlined how the Soviets, having quickly signed the SPNFZT Protocols, proceeded to use the Treaty to try to undermine American relationships in the region. Having signed Protocol II, the Soviets released a statement that countries allowing U.S. naval visits under the Neither-Confirm-Nor-Deny formula would not be protected by the Soviet pledge against using or threatening to use nuclear weapons against Parties to the SPNFZT. Baker concluded, "Soviet signature of this nuclear free zone agreement has therefore become in reality a disguised form of nuclear blackmail to force island leaders away from the western security umbrella."

Today, it is important to consider China's future attitude toward the Zone. China also quickly signed the SPNFZT Protocols. However, China has an aggressive nuclear program, building new mobile ICBMs and a new class of nuclear-powered ballistic missile submarines. China has actively proliferated missiles that can carry nuclear warheads to Pakistan and is believed to have exported to Iran critical nuclear technology that could help that country build nuclear weapons. Finally, China delivered a virtual nuclear threat to Taiwan in July when it tested 6 nuclear-capable missiles just north of that island. That Taiwanese leaders regarded these missile tests as a nuclear threat was proven in subsequent parliamentary debate when members contemplated whether Taiwan should build its own nuclear weapons. It is simply unwise to expect that China will forever respect the South Pacific Nuclear Free Zone or refrain from using the Zone to blackmail its members should doing so advance China's interest.

Another manner in which the SPNFZT could be exploited by future adversaries would be the establishment of future nuclear-free zones in areas where American interests are more actively engaged than in the South Pacific. It is unlikely that the U.S. could accept SPNFZT-like restrictions in nuclear-free zones in Northeast Asia, Southeast Asia the Middle East, or the Persian Gulf and still maintain the essential ambiguity of its nuclear deterrent, or the necessary flexibility to employ military forces as needed. Because of this, it is possible that adversaries of the United States--in the name of peace--may seek those restrictions because they could limit American military power.

### **5. Can regional leaders be trusted to respect U.S. global concerns?**

Proponents of the SPNFZT have argued that political good will toward the United States in the South Pacific risks being squandered if Washington fails to sign the SPNFZT Protocols. In 1987, Baker noted that "Predictions that leaders of the region would discount global considerations in their advocacy of regional aspirations have simply not proven true." In the mid to late 1980s, alliance cooperation with Australia was proceeding apace; exercises, Australian purchases of U.S. weapons, and Australia's help in the Gulf War attest to this fact. The alliance with the U.S. still receives overwhelming popular support in Australia, and the recent agreement to pursue missile defense research cooperation will open new avenues for cooperation into the next century.

But in 1995 it cannot be said with finality that leaders in the region will always respect U.S. global considerations. Were this so, the Keating government would not have presented arguments before the ICJ calling for the outlawing of all nuclear weapons--which presumably include U.S. nuclear weapons. This argument does not take into account the fact that the current U.S. nuclear posture in Asia actually prevents wider nuclear proliferation. In New Zealand the Bolger government's support for the 1987 anti-nuclear law makes impossible the resumption of effective alliance cooperation with New Zealand. While it is true that the Bolger government has not restricted military cooperation with U.S. forces in U.N. peacekeeping operations--as the letter of their law would suggest is necessary--there is no assurance that a future Labor government would follow suit.

It is not at all clear that signing the SPNFZT Protocols will change the attitude of the New Zealand government. As long as the U.S. faces nuclear-armed adversaries it will require a nuclear deterrent. Good will toward the U.S. on the part of South Pacific leaders, as in the past, will continue to flow from patient explanation of the U.S. strategic posture and why nuclear weapons continue to be necessary.

### **FRENCH NUCLEAR TESTING AND AMERICAN INTERESTS**

Opposition has been widespread and strong to the Chirac government's decision to conduct eight new underground nuclear tests in French Polynesia. Varying degrees of opposition have been expressed by Australia, New Zealand, most South Pacific countries save Vanuatu, the European Parliament, Japan, South Korea and the Philippines. On September 1, just before the first new French underground nuclear test on September 5, France arrested protesters and foreign politicians on the Greenpeace ship Rainbow Warrior II, and among those arrested was Congressman Eni Faleomavaega of American Samoa. This test was also protested by pro-independence Tahitians and their foreign supporters on September 6. Unfortunately, what started as a peaceful protest evolved into riots which caused an estimated \$13 million in damage to the airport in Tahiti. Following its second nuclear test on October 2, France was expelled as a dialogue partner in the South Pacific Forum.

These moves culminated in the October 20 announcement in Washington that France would sign the Protocols to the SPNFZT, most likely after it completes its announced series of underground tests. This move, however, is unlikely to significantly

mollify continued opposition. There will likely be continued pressure from the region and from U.S. opponents to continued French testing. For American policy, the issue of French nuclear testing poses at least three questions related to U.S. global and regional concerns.

**1. How important is France's nuclear deterrent to the U.S.?**

As the American nuclear deterrent remains central to the U.S. ability to deter conflict, the nuclear deterrent components of the British and French armed forces remain central to their ability to deter potential adversaries, and thus, enhances the U.S. deterrent posture. That potential nuclear-armed adversaries would face possible retaliation not just from U.S., but from French or British nuclear weapons as well, only decreases the likelihood of there being such an attack on the United States.

One of the so-called dividends of the end of the Cold War is that the United States has been able to bring home the vast majority of its forces in Europe. In fact, it is possible for the United States to pass the primary responsibility for responding to threats to peace in the European Theater to our NATO allies. That threats to peace will continue is clear from the current all-consuming debate over American involvement in Bosnian peacekeeping operations. Uncertainty regarding Russia's future, in addition to the fact that Iran, Algeria, Libya, and Syria all harbor potential nuclear or missile ambitions, all justify Britain's and France's decision to retain nuclear weapons.

Defense relations between Britain and France are growing closer. A new pact signed by London and Paris on October 30 reportedly commits both sides to exchange top-secret data on nuclear weapons and to coordinate their respective nuclear policies and doctrines. Inasmuch as France has elected to maintain both submarine-launched nuclear missiles and air-launched nuclear missiles, while Britain favors retaining only its submarine-launched nuclear missiles, France could play a dominant role in maintaining their respective nuclear deterrents.

**2. Is it necessary for France, or for the U.S., to test nuclear weapons?**

Both France and the United States test nuclear weapons for the same reasons: to guarantee their safety and reliability, and to improve and modernize their nuclear deterrent. If it were to become known that American or French nuclear weapons were unsafe or unreliable, and thus less likely to be used, it is possible that their respective deterrent postures would be undermined. Some assert that nuclear weapons testing can be replaced by computer modeling. In part, the French are justifying their latest series of tests so as to gather data for such computer modeling.

However, the Clinton Administration appears to be of two minds on the issue of nuclear testing. The Administration's decision of August 11 to ban all U.S. nuclear tests and to sign a Comprehensive Test Ban Treaty is in apparent contradiction to the Administration's September 1994 Nuclear Posture Review. This Review found that the United States must maintain a stockpile of reliable, safe, and effective nuclear weapons to fulfill U.S. security commitments. Such a stockpile cannot be maintained without testing.

**3. Has the debate over the environmental impact of French nuclear testing in South Pacific been settled?**

One of the main reason offered by anti-nuclear activists and opponents to French nuclear testing in French Polynesia is that the tests pose a large environmental hazard to the region. Opponents of French testing, both inside and outside of France point to past

harm caused by French atmospheric nuclear testing in the 1960s and 1970s and the potential for radiation leakage from the atolls in which France has conducted underground nuclear testing. Regarding the later it was reported in early October that a leaked French government report revealed that deep cracks in the Mururoa Atoll could lead to radiation seepage.

However, before rendering final judgments on this matter, it is critical that U.S. policy makers consider that there is a wide range of opinion on the impact of French nuclear testing on the environment of the South Pacific.

For example, the Australian ABC-Television network's science show "Quantum" interviewed scientists in New Zealand and Australia. Their statements offered a perspective not often voiced by anti-nuclear activists. Regarding the impact of French atmospheric nuclear testing in the South Pacific, Dr. Murry Matthews of the New Zealand National Radiation Laboratory stated, "Our estimate is that, on average in the Pacific islands, from the entire history of atmospheric weapons tests, individuals in the islands would have received around about one milli-sievert [of radiation] over their entire lifetimes from that testing." Natural background radiation is measured as two milli-sieverts a year, while a CatScan can generate up to eight milli-sieverts.

On the matter of radiation leakage from the Mururoa Atoll, "Quantum" interviewed Sydney University Professor Peter Davies, who said that based on his analysis of the structure of the atoll, he calculated a "...best case scenario of greater than five hundred years for leakage of fluids from the middle of the atoll, and those fluids were likely to contain some radio nucleides." Davies did qualify this assessment in the event of a test failure forcing a collapse in the atoll. However, ABC noted that because tests are now placed in the center of the atoll and the bomb yields are small, "the risk of a major collapse is very low." Dr. Matthews told "Quantum" that if all the nuclear material in Mururoa were dissolved in its lagoon, and it were fresh water, "one could drink around 300 liters of that before one would reach the annual limit of intake" [of resulting nuclear contamination].

## CONCLUSION

For well over a decade successive Administrations have sought to balance the legitimate nuclear concerns of our friends in the South Pacific with the burden of America's regional and global strategic commitments. It does not appear that the Clinton Administration has put its decision to sign the Protocols of the Treaty of Rarotonga to the same rigorous reviews as those conducted by the Reagan and Bush Administrations. Consequently, since it appears that at least the Senate will have to review and vote on the Administrations decision to sign these Protocols, it behooves the Congress to consider the following questions:

1. **Can the United States accept the risks associated with limiting the traditional ambiguity of the American nuclear posture?**

2. Can the United States legitimately ask its men and women to fight against possible nuclear-armed adversaries in a region where access to maximum military strength could be even slightly restricted?
3. Can the United States be assured that future potential adversaries will not seek to use the SPNFZT, or the model it creates, to blackmail U.S. allies or to create similar zones that may constrain U.S. military activities?

If in future hearings the Administration cannot answer these questions emphatically in the affirmative, then the United States should delay signing the SPNFZT Protocols.

**QUESTIONS FOR THE RECORD SUBMITTED  
BY THE HONORABLE ENI F.H. FALEOMAVAEGA**

**TO**

**THE HONORABLE THOMAS E. McNAMARA  
ASSISTANT SECRETARY OF STATE FOR POLITICAL-MILITARY AFFAIRS  
U.S. DEPARTMENT OF STATE**

Hearing on

***"Nuclear Issues in the South Pacific"***

November 15, 1995

QUESTIONS FOR SOUTH PACIFIC NUCLEAR HEARINGSPNFZ1

1. WHY HAS THE U.S. DELAYED SIGNING ONTO THE SPNFZ TREATY PROTOCOLS TILL MID-1996? WAS THIS REQUESTED BY FRANCE?

IS THIS AN ACCOMODATION OF FRANCE TO GIVE IT POLITICAL COVER FOR CONTINUING ITS RECENT SERIES OF NUCLEAR TESTS?

2. WHY DID FRANCE SHIFT ITS POSITION ON SPNFZ AND WHAT IMPACT, IF ANY, DID THE FRENCH SHIFT HAVE ON THE U.S. STANCE.
3. DO YOU AGREE THAT ONCE FRANCE JOINS THE SPNFZ PROTOCOLS, THIS WILL MANDATE A PERMANENT CLOSURE OF ITS FACILITIES AT MORUROA AND FANGATAUFA ATOLLS FOR PURPOSES OF NUCLEAR TESTING?
4. DURING THE NIXON AND REAGAN ADMINISTRATIONS, THE U.S. SIGNED THE LATIN AMERICA NUCLEAR FREE ZONE TREATY PROTOCOLS, THE PROVISIONS OF WHICH ARE SUBSTANTIALLY THE SAME AS THE SPNFZ TREATY PROTOCOLS.

IS THERE ANY SECURITY INTEREST THAT WOULD WARRANT THE U.S. JOINING THE LATIN AMERICAN TREATY YET NOT THE SOUTH PACIFIC TREATY?

FRENCH NUCLEAR TESTING/OVERFLIGHT ISSUE:

4. WHAT EFFECT IS FRENCH TESTING HAVING ON FRENCH ABILITY TO CONTROL AND GOVERN THE OVERSEAS TERRITORY OF FRENCH POLYNESIA?

WERE THE RIOTS IN SEPTEMBER AN ABERRATION, OR DO THEY REFLECT MORE DEEPLY SEATED ANTI-FRENCH FEELINGS THAT COULD COMPLICATE GOVERNANCE IN THE FUTURE?

5. WHAT IS THE RECORD OF U.S.-FRENCH COOPERATION IN DEVELOPING FRENCH NUCLEAR WEAPONS AND DOES THIS AFFECT U.S. GOVERNMENT ATTITUDES TOWARD THE FRENCH TESTS?

-2-

6. IS IT A FACT THAT THE U.S. GOVERNMENT ROUTINELY APPROVES THE OVERFLIGHT OF U.S. TERRITORY BY FRENCH AIRCRAFT CARRYING NUCLEAR DEVICES SENT TO FRENCH POLYNESIA FOR TESTING?

7. IN RESPONSE TO CONGRESSIONAL INQUIRIES (BY REP. MARKEY) REGARDING THE FRENCH OVERFLIGHTS, THE STATE DEPARTMENT EXPLAINED THAT ONCE FOREIGN COUNTRIES ARE NOTIFIED OF THEIR DISCLOSURE REQUIREMENTS, THE PROCESS OF DIPLOMATIC OVERFLIGHT CLEARANCE DOES NOT NORMALLY INVOLVE "THE FURTHER SOLICITATION OF CARGO MANIFESTS FROM THE FOREIGN GOVERNMENT."

(1) WHEN WAS THE FRENCH GOVERNMENT INFORMED OF ITS DISCLOSURE OBLIGATIONS UNDER U.S. LAW AND REGULATION?

(2) WHILE I UNDERSTAND THAT ROUTINE DIPLOMATIC PROCEDURE DOES NOT NORMALLY ENTAIL SEEKING ADDITIONAL INFORMATION FROM FOREIGN NATIONS, HAS THE DEPARTMENT EVER REQUESTED FURTHER DETAILS FROM THE FRENCH GOVERNMENT ABOUT CARGO ABOARD AIRCRAFT OVERFLYING THE U.S. ON THE WAY TO THE NUCLEAR TEST SITE?

(3) IF YES, WHY DID THE DEPARTMENT SEEK FURTHER CLARIFICATION, AND WHAT WERE THE RESULTS OF THE INQUIRY?

(4) IF THE DEPARTMENT HAS NOT SOLICITED MORE INFORMATION ABOUT THE NATURE OF FREIGHT ABOARD THESE OVERFLIGHTS, CAN THE DEPARTMENT CERTIFY THAT THE CARGO DOES NOT INCLUDE FISSION MATERIALS, NUCLEAR EXPLOSIVE DEVICE COMPONENTS, OR OTHER SUBSTANCES PROSCRIBED BY U.S. LAW AND REGULATION?

(5) CONSIDERING THE ADMINISTRATION'S OPPOSITION TO FRENCH NUCLEAR TESTING, WHY HAS THE STATE DEPARTMENT CONTINUED TO GRANT OVERFLIGHT PRIVILEGES TO FRENCH MILITARY AIRCRAFT CARRYING EQUIPMENT TO THE TEST SITE?

Question for the Record submitted to Thomas E. McNamara  
House Subcommittee on Asia and the Pacific  
Committee on International Relations  
November 15, 1995

1. Why has the U.S. delayed signing onto the SPNFZ Treaty protocols till mid-1996? Was this requested by France?

Is this an accommodation of France to give it political cover for continuing its recent series of nuclear tests?

Answer:

In 1987 the United States decided that, in view of our global security interests and responsibilities, we were not under existing circumstances in a position to sign the SPNFZ protocols. Since then, circumstances have changed. The Cold War has ended, the Soviet Union collapsed, nuclear weapons and their delivery systems have been dramatically reduced, and we have made progress on concluding a comprehensive nuclear test ban treaty (CTBT). The nuclear Nonproliferation Treaty (NPT) was also extended indefinitely and without conditions on May 11, 1995, and all countries in the zone established by the SPNFZ Treaty have become NPT parties. This has created a more stable strategic environment in which further progress on arms control can be made.

Though the United States did not sign the SPNFZ protocols until March 25, 1996, United States practices and activities in the region were consistent with the Treaty or its protocols. We have consistently and repeatedly made our position clear to the Government of France, i.e., that a global moratorium on nuclear testing provides the most favorable environment in which to negotiate the CTBT we both support and hope to conclude this year. By signing SPNFZ Protocol 3, France fulfilled its pledge in June 1995 to end nuclear testing in the South Pacific at the conclusion of its latest series of tests.

Question for the Record submitted to Thomas E. McNamara  
House Subcommittee on Asia and the Pacific  
Committee on International Relations  
November 15, 1995

2. Why did France shift its position on SPNFZ and what impact, if any, did the French shift have on the U.S. stance?

Answer:

Only the French government can speak authoritatively about the basis for its SPNFZ policy. However, several points are worth noting. In April 1992 France suspended its 32-year program of nuclear weapon testing. In May 1995, when the Non-Proliferation Treaty was extended, the treaty parties (including France) adopted a decision on principles and objectives for nuclear non-proliferation and arms control. These included completion of a Comprehensive Nuclear Test Ban Treaty (CTBT) no later than 1996, and cooperation of the nuclear weapon states with nuclear weapon free zones. When President Chirac in June 1995 announced the latest French test series, he said that it would end no later than May 1996. In January 1996 France announced that its nuclear test sites in the South Pacific would be closed, and on March 25 France joined the U.S. and UK in signing the SPNFZ protocols. French actions have been consistent with our common goal of finishing a CTBT this year.

We have consistently told the French that we believed a global moratorium on nuclear testing provided the most favorable environment in which to negotiate a CTBT.

Question for the Record submitted to Thomas E. McNamara  
House Subcommittee on Asia and the Pacific  
Committee on International Relations  
November 15, 1995

3. Do you agree that once France joins the SPNFZ protocols, this will mandate a permanent closure of its facilities at Mururoa and Fangataufa Atolls for the purposes of nuclear testing?

Answer:

Once France ratifies Protocol 3, it will have undertaken not to test any nuclear explosive devices anywhere in the zone described in Annex 1 of the Treaty. President Chirac publicly stated in January 1996 that the Mururoa and Fangataufa nuclear weapon test sites would be closed and that France hoped to sign a Comprehensive Test Ban Treaty later this year.

Question for the Record submitted to Thomas E. McNamara  
House Subcommittee on Asia and the Pacific  
Committee on International Relations  
November 15, 1995

4. During the Nixon and Reagan Administrations, the U.S. signed the Latin America Nuclear Free Zone Treaty Protocols, the provisions of which are substantially the same as the SPNFZ Treaty Protocols.

Is there any security interest that would warrant the U.S. joining the Latin American Treaty yet not the South Pacific Treaty?

Answer:

The United States has always made clear that its policies and practices were already consistent with the South Pacific Nuclear Free Zone Treaty and its Protocols. On March 25, 1996 we, the French and the British signed Protocols 1, 2, and 3 in Suva, Fiji.

Question for the Record submitted to Thomas E. McNamara  
House International Relations Committee  
11/14/95

Q4. What effect is French testing having on French ability to control and govern the overseas territory of French Polynesia? Were the riots in September an aberration, or do they reflect more deeply seated anti-French feelings that could complicate governance in the future?

A4. -- SOME TAHITIANS AND LOCAL POLITICAL LEADERS MADE CALLS FOR INDEPENDENCE DURING RIOTING IN PAPETE FOLLOWING THE FIRST NUCLEAR TEST, IN SEPTEMBER 1995. FRENCH AUTHORITIES RESTORED ORDER IN A FEW DAYS, AND THERE HAVE BEEN NO FURTHER REPORTS OF CIVIL UNREST.

-- THE USG VIEWS THE ISSUE OF THE POLITICAL STATUS OF FRENCH POLYNESIA, INCLUDING CALLS BY SOME SECTORS FOR INDEPENDENCE, AS AN INTERNAL MATTER WHICH WE HOPE WILL BE ADDRESSED IN A PEACEFUL, NON-VIOLENT MANNER.

Question for the Record submitted to Thomas E. McNamara  
House International Relations Committee  
11/14/95

Q5. What is the record of U.S.-French cooperation in developing French nuclear weapons and does this affect U.S. government attitudes toward the French tests?

A5. -- OUR COOPERATION WITH THE FRENCH IS DESIGNED TO ENSURE THE SAFETY AND RELIABILITY OF EXISTING WEAPONS UNDER A COMPREHENSIVE TEST BAN. IT IS NOT TO AID IN THE DEVELOPMENT OF NEW NUCLEAR WEAPONS.

-- WHEN FRANCE RESUMED NUCLEAR TESTING, WE REGRETTED THEIR DECISION, AND FOCUSED ON THE IMPORTANCE OF SIGNING A RESTRICTIVE "TRUE ZERO" COMPREHENSIVE TEST BAN TREATY BY THE FALL OF THIS YEAR.

-- THE FRENCH SHARE THIS GOAL, AND ARE WORKING WITH US TO ACHIEVE IT.

Question for the Record submitted to Thomas E. McNamara  
House International Relations Committee  
11/14/95

Q6. Is it a fact that the U.S. government routinely approves the overflight of U.S. territory by French aircraft carrying nuclear devices sent to French Polynesia for testing?

A6. -- NO. UNDER THE CODE OF FEDERAL REGULATIONS (22 CFR 126.6), GOVERNMENTS REQUESTING OVERFLIGHT CLEARANCE ARE REQUIRED TO SPECIFY WHETHER ANY HAZARDOUS MATERIALS ARE ON BOARD THE AIRCRAFT.

-- THE CURRENT LIST OF HAZARDOUS MATERIALS, AS DEFINED BY THE SECRETARY OF TRANSPORTATION, IS CONTAINED IN THE CODE OF FEDERAL REGULATIONS AS 49 CFR 172.101. TOXIC CHEMICALS, EXPLOSIVE DEVICES, AND RADIOACTIVE MATERIAL ARE CONSIDERED HAZARDOUS MATERIALS.

-- AT NO TIME DURING THE PERIOD IN QUESTION DID THE FRENCH GOVERNMENT NOTIFY US THAT ANY EXPLOSIVE DEVICES OR RADIOACTIVE MATERIALS WOULD BE CARRIED ON ITS MILITARY AIRCRAFT OVERFLYING U.S. TERRITORY.

Question for the Record submitted to Thomas E. McNamara  
House International Relations Committee  
11/14/95

Q7. In response to Congressional inquiries (by Rep. Markey) regarding the French overflights, the State Department explained that once foreign countries are notified of their disclosure requirements, the process of diplomatic overflight clearance does not normally involve "the further solicitation of cargo manifests from the foreign government."

Q7(1) When was the French government informed of its disclosure obligations under U.S. law and regulation?

A7(1)

-- WE ARE SEEKING PRECISE INFORMATION ON THE DATE WE INFORMED THE GOV OF THIS OBLIGATION.

Q7(2) While I understand that routine diplomatic procedure does not normally entail seeking additional information from foreign nations, has the Department ever requested further details from the French government about cargo aboard aircraft overflying the U.S. on the way to the nuclear test site?

A7(2)

-- WE HAVE NO RECORD OF REQUESTING ADDITIONAL INFORMATION ABOUT FRENCH AIRCRAFT OVERFLYING THE UNITED STATES EN ROUTE TO FRENCH POLYNESIA.

Q7(3) If yes, why did the Department seek further clarification, and what were the results of the inquiry?

A7(3)

-- NOT APPLICABLE.

Q7(4) If the department has not solicited more information about the nature of freight aboard these overflights, can the Department certify that the cargo does not include fissile materials, nuclear explosive device components, or other substances proscribed by U.S. law and regulation?

A7(4)

-- WE CAN CERTIFY THAT THE GOVERNMENT OF FRANCE HAS PROVIDED US WITH ASSURANCES THAT NO PROHIBITED MATERIALS WERE ON BOARD FRENCH AIRCRAFT OVERFLYING THE UNITED STATES AFTER THE PASSAGE OF THE ACT:

Q7(5) Considering the Administration's opposition to French nuclear testing, why has the State Department continued to grant overflight privileges to French military aircraft carrying equipment to the test site?

A7(5)

-- FAILING EVIDENCE OR ADMISSION THAT THE FRENCH WERE TRANSPORTING HAZARDOUS MATERIALS IN VIOLATION OF U.S. LAW OR REGULATION, WE PROVIDE OVERFLIGHT CLEARANCES AS A MATTER OF RECIPROCITY AND IN SUPPORT OF A MILITARY ALLY.

-- I WOULD NOTE THAT WE REQUEST APPROXIMATELY 10,000 MILITARY FLIGHT CLEARANCES ANNUALLY FROM THE GOVERNMENT OF FRANCE.

## ABC TV's QUANTUM Program on French Nuclear tests at Moruroa Atoll, August 23,

1995, 1995

(This is a fairly reputable science program on the very left/feminist ABC TV, which is Australian government owned).

Quantum's Karen Kelly, introducing the Program:

The French Government's decision to resume nuclear testing at Moruroa Atoll has dominated our news and politics for months. No one outside France wants the tests, but the big question is, are they dangerous to those of us who live in the South Pacific? We've tended to fear the worst because independent scientists have not been given free access to test sights or records. But as Megan James reveals tonight, scientists in our region do have enough data to reach a verdict on the safety of France's tests, and their conclusions may surprise you

[Section on US tests and effects of fall out omitted from this text]

[French are planning 8 more nuclear tests before the nuclear test ban treaty comes into effect next year]

Interviewer/Presenter, Megan James (MJ):

... people are understandably sceptical of France's assurance that all is safe. Claims that French tests have poisoned the environment and have caused cancers and birth defects are of great concern, but they must be viewed in the light of the available facts. Tonight we weigh up the scientific evidence. Is radio-activity the real danger?

[Commenting on background radiation]

MJ:

In Australia and South-Pacific nations, that is measured as two milli-sievert a year. To put that in perspective, every time you have a medical procedure like a cat scan or Barium Meal, you're exposed to about four times that radio-activity. Up to 8 milli-sieverts. Most experts agree that two milli-sieverts background radiation does us little or no harm, but when it comes to additional radio-activity, the less you're exposed to, the better.

We know from the survivors of the first nuclear weapons at Hiroshima and Nagasaki that doses of radio-activity above around 500 milli-sieverts do cause extra cancers and birth defects in a population.

The Marshall Islanders were exposed to four times that level - nearly 2,000 milli-sieverts from a US test]. The case is not so clear cut in French Polynesia.

[Annotation: Between 1966 and 1974 France exploded 41 atmospheric tests in French Polynesia. The total yield was 15 megatons, equal to one single US test at Bikini Atoll.]

Dr Murray Matthews, National Radiation Laboratory, NZ  
Our estimate is that, on average in the Pacific islands, from the entire history of atmospheric weapons tests, individuals in the islands would have received around about one milli sievert over their entire lifetimes from that testing.

MJ:  
One extra milli-sievert over fifty years! How can we be sure the exposure was low? The figures come from the Australian Radiation Laboratory and the National Radiation Laboratory in New Zealand. Both exist to monitor radiation hazards and protect the populations. The Labo have no vested interest in the nuclear industry. New Zealand doesn't even have a nuclear reactor. During the whole period of French atmospheric testing,

New Zealand monitored the levels of fallout at their network of South Pacific stations. The fallout was, but uneven. There were "reinouts" - times when winds blew a cloud of radioactivity over island populations. If it rained, fallout rained down too.

Dr Murray Matthews:

The most significant event occurred in 1966, when there was what we call a "blowback" from Moruroa towards Samoa in particular where the debris from the test went Westward instead of Eastward, and it was caught in a heavy rain event at Samoa and this resulted in quite a lot of local contamination. Even then though, the dose in that year from that event would have been only around about 0.2 milli-sieverts.

MJ:

So that's still a tenth of the background radiation?

Dr Murray Matthews:

A tenth of the background radiation.

MJ:

There was another rainfall on Tahiti in 1974. But, again, fallout was well below background radiation. We know of just one other rainfall event, on the Gambia Islands just south-east of Moruroa. There, fallout was higher - four milli-sieverts, twice background radiation, but still many hundreds of times lower than the Marshall Islands' case. Now, for some of these figures, we are relying on French monitoring stations. But their figures closely correspond to the patterns and levels of fallout monitored by New Zealand.

Dr Andrew McEwan, National Radiation Laboratory, NZ:

The radiation doses were so low that no effects from radiation would be expected. If there is no radiation, there can be no radiation effects.

MJ:

So what are we to make of the worrying claims that birth defects and cancer rates have increased in French Polynesia since the tests? As harsh as it may seem, reports of an increase in birth defects are all anecdotal. There simply isn't a register of birth defects in French Polynesia. And while evidence is building, that cancers are increasing, there are other explanations.

Dr Andrew McEwan:

An increase in cancers will arise if people live longer - if the life expectancy goes up, then the cancer rates go up, because cancer rates increase with age. Another cause of increased cancers is changes in lifestyle factors, such as increases in smoking and, if the population is smoking heavily, then there will be a very considerable rise in lung cancers particularly, and in other cancers.

MJ:

The French still contend their atmospheric tests were safe, but they did respond to international pressure on health concerns. In 1975, more than a decade after Britain, the U.S. and Russia had moved their tests underground, the French finally followed suit. But where the other nuclear powers moved out of the Pacific, the French stayed put, and on this question, at least, the scientific consensus is that France was mistaken. An Atoll is no place to store nuclear waste.

Moruroa is a sea mount, formed more than 7 million years ago when a volcano erupted beneath the sea. When lava hits cold water, it forms interlocking tubes of rock which build up a mountain. The mountain erodes, leaving a basalt base and a middle layer of soil. The top layers of limestone and corals leak like a sieve.

Professor Michael O'Sullivan, University of Auckland:

There is a very permeable zone from the level where the arrow is at about 400 metres below sea level up to the surface, and that consists of limestones which are naturally very permeable and

very leaky. The heavy ocean water here drives the water through the Atoll up into the lagoon.

MJ:

Any nuclear waste would get through these middle and top layers very quickly, but the shafts for the underground tests run up to 1,000 metres deep in the basalt base, supposedly well clear of the leaky layers.

What happens when you add a nuclear explosion or two? According to the French?

Dr Michael O'Sullivan:

Well we detonate a bomb down in these deep basalts, and then what the French claim is this kind of scenario where we have a chamber here which consists of glassified rock which is broken up into little lumps and surrounding that, they say the rock is not very badly affected, so the natural flow of water is virtually unaffected by the bomb going off, and the radioactivity is safe down in the volcanic rock.

MJ:

But there is a problem. The French claim the chamber is sealed but cools quickly. The only way it could cool quickly is if the chamber is so cracked it allows cooling water to get in and out.

Professor Michael O'Sullivan:

Now we have a large fractured chamber - then the water can get down into the bomb site and back up again.

MJ:

Professor O'Sullivan concluded that radio-activity must, in time, leak out. Is it leaking now? The latest evidence we can now reveal strongly supports France's claim that underground testing has not poisoned the marine environment. These are samples of foodstuff collected on Moruroa by the International Atomic Energy Agency. Fish from the lagoon, spiny lobster, molluscs and coconut milk. The Australian Radiation Laboratory was one of eight around the world given samples of some organisms collected at the same time. The analysis show that there is radio-activity in the samples, but the levels are very low. The results are credible because all eight Labs concur. Among them was New Zealand's National Radiation Laboratory.

Dr Andrew McEwan:

The levels in those fish did show traces of which one would expect, and the levels were fairly consistent with what one would expect from global fallout, but there is certainly no evidence of significant leakage of any type.

MJ:

Moruroa may not be leaking now, yet even the French admit the radio-active waste stored under their feet will eventually escape, but they say it won't be for thousands, perhaps ten thousand years. The French claim the basalt that forms the base of Moruroa is not very porous, so any water in the blast chambers will take thousands of years to move through the rocks, but there's good evidence it will happen much more quickly than that. So these are actually samples from Moruroa itself?

Professor Peter Davies, University of Sydney:  
That's correct.

MJ:

Professor Peter Davies visited Moruroa in the early '80s. He studied just how porous the Atoll's base is. Some parts he found are far leaker than others.

Professor Peter Davies:

If you look at this sample, for example, there are nicks and cracks through the sample indicating that there are fissures which run through the sample, and that is very important in terms of the connectivity of the pores, in other words how water would transgress through the rock.

(2)

MJ:

And from the variety of porosity that we are looking at here, how did you redo the sums on how long it would take for leakage to occur from the basalt samples?

Professor Peter Davies:

From that, I calculated best case scenarios of greater than five hundred years for leakage of fluids from the middle of the Atoll, and those fluids were likely to contain some radio nuclides.

MJ:

And a worse case scenario?

Professor Peter Davies:

Well, the worst case scenario is related to something happening associated with the tests, and that would be almost instantaneous.

MJ:

And accidents have happened. In July, 1979, a 120 kiloton bomb got stuck half way down the shaft at 400 metres. They exploded it anyway. As tests then were on the rim of the Atoll, part of the southern side collapsed in an underwater landslide.

Professor Peter Davies:

The French have admitted to some million cubic metres of rock having come away from the side of the Atoll. Well, a million cubic metre is substantial; however, think of what it means; it's a hundred metres, by a hundred metres, by a hundred metres. That is actually a small portion of the Atoll but, nevertheless, they've also moved their tests back into the lagoon and I don't think they or anybody has reported landslides since.

MJ:

Because the tests are now in the centre of the Atoll, and the bombs are now small, the risk of a major collapse is very low. Long term leakage remains by far the most realistic scenario.

Professor Peter Davies:

In five hundred years, or whatever it is, I don't know what the exact time is, but at whatever time, there will be the potential for Moruroa to leak the radio nuclides into the biosphere.

MJ:

But such leakage may not be as dangerous as we've been led to believe.

Dr Murray Matthews:

Well, a key factor which seemed to be overlooked in most people's arguments is just what the source term is. How much radio activity is locked up in Moruroa after all of these tests? It seems that in many circles that some people think a very large amount of radio-activity is there, and it should be called into perspective just how much there is there.

MJ:

The total fallout from all atmospheric tests ever conducted is three hundred megatons. The total of France's underground tests to date is just under 3 megatons. We know that from New Zealand's Seismic Monitoring Stations.

Most of that 3 megatons is locked in the glassy lining of the cavity created by the explosion. Only about 5% is loose in the blast chamber. Let's imagine, just for a moment, that somehow it all leaked out tomorrow. Incredible as it may seem, the sums done by New Zealand's Radiation scientists suggest there would be no great danger to the environment or health.

Dr Murray Matthews:

Most of our reasoning in this area is based on recommendations of the International Commission on Radiological Protection, and that body produces recommendations for limits of intake - they're called annual limits of intake. And if all of the material presently in Moruroa were to dissolve in a lagoon that size, if it were fresh water, one

could drink around about 300 litres of that before one would reach the annual limit of intake.

MJ:  
What about in some hundreds of years, as is the best estimate? Would it be a danger then?

Dr Andrew McEwan:  
Well, if one goes hundreds of years in the future, then the fission products are of more particular concern, like Cesium 137, Strontium. They have half lives of 30 years, so going 90 years, that's three half-lives - the total amount is down to an 8th - go another 90 years, it's down to a 64th, so it's actually decaying away. And if you go hundreds of years in the future, then you've probably haven't got a lot of radioactivity to worry about.

MJ:  
None of these scientists is saying that Moruroa is contamination-free. It's known that in 1961, a typhoon washed between 10 and 20 kilograms of Plutonium, the legacy of earlier weapons' safety tests into the Lagoon. Plutonium, when it is in the air and can be inhaled, is one of the deadliest substances we know. But in a marine environment, like the Lagoon, Plutonium gets very strongly bound up in the sediment. Very little gets into the food chain.

A lot of people might interpret this information as scientists saying that the testing is O.K., that it can go ahead. Is that what you're saying?

Dr Murray Matthews:  
Well, there are two distinct sets of issues related to Moruroa, as the public see it. There are what I would call the political, philosophical issues of whether we want weapons to be developed, whether we want nuclear proliferation, whether we want more people with nuclear weapons on the planet? There are those political and philosophical issues. And then there are the environmental ones, which I've been talking about. All I'm saying is that the environmental issues are not as great as people appear to think - it doesn't detract from the fact that the other issues are still of concern to most people.

Professor Peter Davies:  
I think the French are their own worst enemy. I think they have a huge data base which, if shared properly, with the community, would help to dispel many, many of the problems that people currently relate to what is happening at Moruroa, because on the basis of easily verifiable experiments, it would be possible to show that much of the French data is correct. But they label everything "Confidential" and, therefore, it never sees the light of day. It does no good at all. I said this in 1984.

MJ: The weight of scientific evidence is that the tests pose no great danger to human health or the environment of the region. The real danger is that France's and China's resumption of testing may derail progress to a world free of nuclear weapons.

Dr Karen von Stroikirch, Australian National University:  
While President Chirac gave the most detailed statement about the purpose of the nuclear tests, one month after his announcement of the tests' resumption, he explained to the French Senate in Paris that of the 8 tests, 4 would be used to perfect computer simulation of nuclear tests, two would be used to test the reliability and effectiveness of aging detonators computers, and the remainder, that is to say 2, would be used to test what he called a new warhead.

MJ:  
Many of the new generation nuclear warheads are small enough for their testing to be hidden.

Dr Peter Wills, Greenpeace spokesman:  
The thing that really makes me suspicious is that the French military wanted to conduct 20 tests they said, before France signed the Comprehensive Test Ban. Now that makes me

wonder if the 8 tests which have been announced involve something of the order of 20 devices, rather than just 8 as you would have thought.

Dr Karen von Stroikirch:  
Well, I believe that in the past, the United States has conducted 2 nuclear weapons tests, explosions, simultaneously, so there is no reason to believe that France can't do that.

MJ:  
If the French do test 2 devices simultaneously, we won't know. The Seismological Centre in Canberra will be the first place in Australia to detect any explosions. But from this distance, they can't detect an explosion under 1 kiloton if it is masked by a larger one.

Dr Peter Wills:  
In the broader picture in the long run, the reason to have a Comprehensive Test Ban to stop testing, is to inhibit the development of nuclear weapons, and the great offence which France is causing at the moment is that they say they will sign the Comprehensive Test Ban when they have developed the means for circumventing it.

MJ:  
Those means are computers. France needs the field data from the Moruroa tests to perfect its computer simulation programs. But even if we stopped the French tests, other nuclear nations could continue the electronic version of the arms race, because even under the treaty banning all field tests, nuclear weapons can be developed and refined via computers.

We've directed all our protest efforts at trying to stop this series of French tests, as though stopping them would somehow stop the arms race. Perhaps our protests would be better directed at ensuring next year's treaty is comprehensive in its truest sense.

Dr Peter Wills:  
No nuclear tests, full stop. No simulation, full stop. Don't allow it. Nothing. Nothing is going to be allowed that will allow a nation to develop nuclear weapons.

Dr Karen von Stroikirch:  
The opportunity we have now for achieving a comprehensive test ban is greater than it has been at any time since nuclear weapons have been invented. The danger is that if we don't achieve a ban in the coming year, the political situation could change in any one of the main player's countries. For example, the United States is having Presidential elections, Russia is looking towards Presidential elections, the Chinese Paramount leader may die in the not too distant future. If the political context changes in one of the nuclear weapons' states, it may change the whole nature of the negotiations for a comprehensive test ban.

MJ:  
So we will have lost that opportunity?

Dr Karen von Stroikirch:  
Yes. This is a window of opportunity and we need take it while it is there.

(3)

STATEMENT BEFORE THE  
SUBCOMMITTEE ON ASIAN AND PACIFIC AFFAIRS  
COMMITTEE ON FOREIGN AFFAIRS  
UNITED STATES HOUSE OF REPRESENTATIVES

REAR ADMIRAL EDWARD B. BAKER, JR.  
DIRECTOR, EAST ASIAN AND THE PACIFIC REGION  
OFFICE OF THE SECRETARY OF DEFENSE  
INTERNATIONAL SECURITY AFFAIRS

JUNE 9, 1987

Mr. Chairman, I appreciate this opportunity to present to you and members of the Subcommittee the views of the Department of Defense on the US decision regarding the South Pacific Nuclear Free Zone Treaty. As you know, the United States has decided that in view of its global security interests and responsibilities, it is not, under current circumstances, in a position to sign the protocols to the Treaty of Rarotonga. We believe that this treaty has given us an opportunity to discuss the United States' policy of nuclear deterrence with leaders in the South Pacific, and for that we are grateful. Global security issues are of importance to people of the Pacific, and we are glad to be engaged with them in the discussion of these vital issues.

The question has been asked why the US did not simply sign on to the SPNFZ protocols, an action that, for seemingly little cost, would have pleased a region that is increasingly the subject of Soviet interest and penetration. The answer is that while that action would have increased our short-term popularity, it would not have furthered the long-term security of the region or advanced the cause of world peace.

We are keenly aware of the strength of anti-nuclear sentiment in the region. We are seriously concerned about Soviet efforts at penetration and we acknowledge the importance

of regional perceptions of U.S. policy. The fact that we differ with Australia, New Zealand, and many of the island countries in our decision is not because we fail to recognize the significance of regional views.

The proponents of the treaty have argued that it both satisfies western military operational requirements and accommodates regional anti-nuclear sentiments. The legal terms of the treaty do not interfere with the basic requirements of port access or the right to innocent passage in territorial seas or archipelagic waters and for these provisions we can all be thankful to the wisdom of its drafters.

The question for the US, however, is not whether the treaty should exist but whether we should commit ourselves to adhere to the restrictions it would place on nuclear capabilities. Our answer to that question is that we must take a stand consistent with that which maintains the peace that prevails in today's world -- our longstanding policy of nuclear deterrence. We see the US decision on SPNFZ as presenting an opportunity to reaffirm our policy of deterrence, remind the region of the guiding motives and fundamental objectives of this policy, and call attention to its success.

From our perspective, world peace has been guaranteed for the past forty years not because of the goodwill of the Soviets but because of nuclear deterrence. While we might all wish that there were no nuclear weapons, it is important to understand that what keeps them from being used is the fact that we have them and can move them to strategically important areas if necessary. Nuclear weapons are not all alike. Nuclear weapons under the control of the United States and its allies are weapons that preserve freedom and democracy.

In the South Pacific, the uncontested military strength of the western alliance has guaranteed the region's unique and enviable freedom from armed conflict. Nuclear deterrence has provided a stable strategic environment that has in turn enabled the establishment of free and independent democratic institutions and the development of prospering economies. The US and its allies cannot take credit for what the region has achieved over the past forty years -- that goes to the system of values and strong cultural traditions of the island leaders -- but we can share in the credit for preserving the peace that makes their independence secure.

Some drafters of the treaty have argued that because US military activities in the zone are not inconsistent with the treaty or its protocols, the US should sign the protocols. Deterrence, however, is established not on what we do but what we can do. When we unilaterally foreclose potential

responses to an adversary's challenge, it emboldens our adversaries and increases the risk of war.

Since the end of the Second World War, there has been very little the US needed to do to preserve peace in the South Pacific. While that may be the case for the predictable future, we should not fail to realize that circumstances may change. Changes in our alliance relationships, in the political attitudes of island leaders, and in Soviet and Libyan access to the region are recent changes that would not have been expected a few short years ago.

The Soviets have invested in a massive buildup of naval and air forces in the Pacific that cannot be seen as defensive. The mobility of their naval forces and the reach of their air forces are particularly troubling to South Pacific security. The Soviets have no interests to defend in the South Pacific -- no sea lines of communication, no socialist comrades, no territory. Guided not by security but by expansion, the Soviets are becoming a threatening presence in the Pacific at the same time we are being asked to freeze our capabilities and foreclose certain heretofore unused options. We do not believe it is wise to do so.

In addition to these general concerns, the Department of Defense has a number of specific points to make regarding the individual protocols that the US has been asked to sign.

Protocol I would restrain the exercise of US defense authority in and for US territory. We do not believe it is wise at this time to foreclose the possibility of "emplantation, emplacement, transport on land or inland waters, stockpiling, storage, installation, and deployment" of nuclear weapons in US territory within the zone as Protocol I would require.

To have signed Protocol I would have established an unfortunate precedent not only for the defense of US territory but also for nuclear policy in territories and freely associated states that are outside the current boundaries of the Zone. The United States has completed negotiations with the Republic of Palau, the Federated States of Micronesia and the Republic of the Marshall Islands whereby defense authority and responsibility for these areas is entrusted to the United States, although these arrangements are not yet in effect with regard to Palau. To the extent that we pledge to defend these areas as the US and its citizens are defended, our policies toward these areas should consistently reflect the basic policies we adhere to in our defense of our own territory and citizens.

Regarding Protocol II, many have argued that because we have no intention of "using or threatening to use" nuclear weapons against nations in the zone, the US should sign on to Protocol II. US intentions are well established and no reasonable person believes the US intends to use or threaten to use nuclear weapons against any nation in the zone. An additional provision of protocol II contains a restriction "not to contribute to any act of a party to the Treaty which constitutes a violation of the Treaty, or to any act of another Party to a Protocol which constitutes a violation of a Protocol." The practical objective of this provision appears to have been the prohibition of aid to French nuclear testing in the region. Many legal scholars have pointed out that effect occurs only if the French were to sign the protocols. Nevertheless, legal arguments aside, the political perception would be that the United States could not assist an ally in this or any other specified nuclear operation without violating the spirit of Protocol II.

Protocol III bans the testing of nuclear weapons in the zone. The Free World, and all those nations that wish to deter the expansionist policies of the Soviet Union, benefit from the fact that there is a French testing program. France tests nuclear devices for the same reasons the United States does - to modernize and improve its nuclear deterrent. Because French testing contributes an additional level of deterrence

against Soviet nuclear capabilities, the United States cannot in good conscience sign on to a Protocol that appears to condemn it.

One of the most troubling criticisms of the US decision not to sign the protocols is the charge that we are handing the Soviets a propaganda opportunity.

In keeping with their cynical manipulation of anti-nuclear sentiment in the South Pacific, the Soviets rushed to sign on to the South Pacific Nuclear Free Zone treaty on the first day of business after the Treaty came into effect. It is more than obvious that the Soviets are themselves a nuclear power with significant nuclear capabilities in the Pacific. They signed, however, for two reasons: to identify themselves as leader of the band on the anti-nuclear band wagon and, more importantly, to curtail western military operations in the area.

Their statement of reservations published by TASS makes it clear that Soviets objectives are primarily to reduce the deterrent effect of U.S. and allied nuclear capabilities. The Soviets have criticized the treaty's affirmation of rights recognized under international law -- the sovereign right of individual countries to determine port access policy and the freedom of navigation in international waters. In their first reservation, they sought to guarantee that allies

of the US would not facilitate the transportation of nuclear weapons within or beyond the zone; in the second they warned that countries permitting US ship visits under the NCND formula would not be protected by the Soviet pledge to neither use nor threaten to use nuclear weapons against them. Soviet signature of this nuclear free zone agreement has therefore become in reality a disguised form of nuclear blackmail to force island leaders away from the western security umbrella.

In the final tally, the position taken by the Soviets on these zones matters very little at all. They can be expected to promote their own interest, and signing on to a popular treaty in a region to which they have little presence certainly does that. They cannot, however, be relied upon to live up to their commitment. They are not troubled by a policy of neither confirming nor denying the presence of nuclear weapons because they have decided simply to deny it. These aspects of Soviet policy are well known and observable, and the people of the region will not be deceived for long if they have been taken in at all.

It is clear that the Soviets see nuclear free zones as American exclusion zones when they claim, as they did in signing SPNFZ, that they are "consistent advocates of nuclear free zones in various regions of the world." Some of those "various regions" include strategically significant areas critical to western survival. The Soviets have focused

attention on Scandinavia, Southeast Asia and the Indian Ocean as the next areas in which their encouragement for such zones will be directed. As these regions explore nuclear weapons free zones, it will become clear that the US decision not to sign the Rarotonga protocols helped to lay a foundation for the open discussion of the consequences of these zones for the defense of the Free World. US signature of the protocols, on the other hand, would have been a signal for a proliferation of nuclear free zones throughout the Free World. Such zones in the West, unmatched by disarmament in the Soviet bloc, weaken rather than strengthen the cause of peace.

We firmly believe that regional disappointment over the U.S. decision will dissolve as the nature of Soviet activities in the region becomes increasingly clear, and as we explain the reasons for our decision. A Pacific island leader who signed the treaty told us last year that if the US signed, it would be appreciated in the region as a gesture of goodwill toward the islands, and if the US did not sign that would also be appreciated as an indication of US concern for the security of the region. We hope that we can explain that we decided not to make a gesture so that we could make a clearer statement of genuine concern.

Although proponents of the treaty have criticized the decisions of the US and UK not to sign the protocols, the reaction was not as dismissive of western security interests

as some had expected. Predictions that leaders of the region would discount global considerations in their advocacy of regional aspirations have simply not proven to be true. We do not underestimate the genuine feelings of concern for the environment that led some leaders of the South Pacific to enter into this agreement. In fact, the US has demonstrated its respect for their point of view in negotiating and signing the South Pacific Regional Environmental Convention with countries of the region, France and the United Kingdom. We are also aware that in signing the Treaty of Rarotonga, a number of island governments were expressing their concern about the security of the South Pacific in this time of growing superpower rivalry and in light of the vulnerability of the islands. We are sympathetic, but we believe that deterrence provides the security they seek. In this context, we find it especially meaningful that many island states have welcomed US ship visits since December, in spite of the Soviet threat that acceptance of US ship visits would remove a country from the Soviets' pledge not to use or threaten to use nuclear weapons against them. We are confident that the people of the region recognize the threat to peace does not come from America and its allies.

Support for U.S. views is well-founded and generally deeply held in the South Pacific region. That may yet prove the case with regard to the U.S. decision on the South Pacific Nuclear Free Zone Treaty, because we will receive a fair

hearing in the region if we explain our decision, and we expect to take advantage of this opportunity in the months ahead.

# Radioactivity in Plankton Outside the 12-mile Exclusion Zone of the French Nuclear Test Site

## Report of the 1990 Scientific Mission of the Rainbow Warrior

by

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Norm Buske was chief scientist onboard the Rainbow Warrior during the mission to Moruroa and Fangataufa in 1990. This report was commissioned by Greenpeace International, Keizersgracht 176, 1016 DW Amsterdam, Netherlands.

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## SUMMARY

Based on available scientific information, Greenpeace is concerned that radioactivity may already be leaking from the French underground nuclear tests at Moruroa and Fangataufa in the South Pacific, despite official French assurances that no leakage will occur for hundreds of years.

In October 1990, following publication of an independent US analysis of Cousteau's data from his 4 day mission to Moruroa in 1987, Greenpeace proposed a 6 week joint sampling programme to the French government and requested access to the nuclear test site to determine the extent of radioactive contamination. The request was ignored.

Considering environmental consequences of possible leakage from the test site too serious to be justifiably concealed behind military secrecy, Greenpeace outfitted the Rainbow Warrior with a laboratory and scientists and sailed for Moruroa in November 1990.

Accompanied by French warships, Greenpeace selectively sampled zooplankton in international waters 12-14 miles downcurrent of Moruroa to determine whether radioactive leakage had developed to detectable levels even into the open ocean. These remote samples yielded tentatively positive results for cesium-134 and traces of cobalt-60 and antimony-125.

Cesium-134 is an artificial radionuclide, having a two year halflife, which is produced as an activation product during nuclear fission. The presence of cesium-134 cannot be attributed to atmospheric testing and may be an indication of radioactivity already leaking from the underground tests.

Based on this tentative indication of leakage, Greenpeace invited scientists from the French Commissariat a l'Energie Atomique (CEA) onboard the Rainbow Warrior to examine the samples and equipment. Greenpeace again requested access to the lagoon in order to identify the sources and intensities of radioactive contamination. After being refused, The Rainbow Warrior dispatched 5-member scientific teams to tow plankton nets across Moruroa lagoon on 10 and 11 December. The scientific teams were arrested and eventually deported. The French military confiscated samples collected on Moruroa by the detained scientific team.

The zooplankton samples that had been collected from international waters were subsequently analyzed in a laboratory in Washington State, USA. The presence of artificial cesium-134 was confirmed at an activity of 8 Bq/kg (dry) with 87% confidence, based on counting statistics. The tentative cobalt-60 was not confirmed. Antimony-125 tested weakly positive in one sample.

The military restrictions on Greenpeace sampling precluded final proof of radioactive contamination and its source. But the indication of cesium-134 in plankton selectively sampled 12 miles from Moruroa raises serious questions and further diminishes confidence in the ability of Pacific coral atolls to contain radioactivity from nuclear explosions.

A full programme of critical scientific sampling of Moruroa and Fangataufa is urgently needed.

## INTRODUCTION

Although people differ regarding the necessity and value of nuclear weapons, most people agree that the enormous destructive power of nuclear weapons and the biological effects of radioactive materials require the highest standards of safety throughout the nuclear weapons complex. Yet most questions of safety are cloaked in military secrecy, allowing the public scant opportunity to review the credibility of the nuclear establishment in which it has placed trust for national security and, indeed, the continued viability of humanity. Thus, public confidence in nuclear weapons programmes hinges on critical evaluation of the few important claims which can be independently reviewed.

One of these important claims, by the French Atomic Energy Commission (CEA) is that nuclear test explosions under the atolls of Moruroa and Fangataufa in French Polynesia will not leak radioactivity to the open environment for hundreds of years. If this claim is correct, then there is no radioactivity presently leaking.

French authorities have severely restricted sampling by the few independent scientists who have been allowed to visit Moruroa and Fangataufa. Yet, available data indicates that underground tests at Moruroa could already have been leaking radioactivity into the lagoon by 1987 [1]. Thus, the Rainbow Warrior, fitted out for a preliminary, independent scientific study of the French Nuclear Test Site (Fig. 1), sailed for French Polynesia in November 1990.

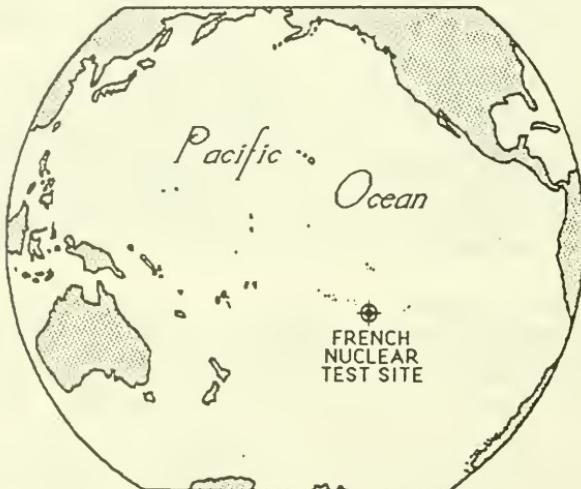


Fig. 1. Location of the French Nuclear Test Site at Moruroa and Fangataufa Atolls.

## BACKGROUND AND CHRONOLOGY

France began atmospheric nuclear testing at Moruroa and Fangataufa atolls in July 1966. After 1974, all French nuclear explosions have been detonated under these atolls in French Polynesia. While the move to underground testing has reduced dramatically the immediate and cumulative releases of radioactivity, underground testing has also hidden some of the risks. Thus, critics have continued to doubt the safety of French nuclear weapons testing. In order to discount this criticism, French authorities invited teams of international scientists to verify the safety of the tests -- the Tazieff mission in 1982 and the Atkinson mission in 1983. However, these investigations were so restricted that their results could provide little assurance of safety or acceptable environmental impact [2].

Meanwhile, experience in sampling radioactive groundwater leaking from the Hanford nuclear materials production facility in Washington State, USA, demonstrated the necessity of sampling either: Water at its point of emergence or biota which concentrate radioactivity. Studies of contaminated groundwater migration, supported by Greenpeace, showed that radioactivity had moved along *fastest pathways* tens to hundreds of times more quickly than admitted by the American nuclear establishment [3]. This suggested that usual scientific methods of predicting and evaluating groundwater migration greatly over-estimated the time for initial emergence of contamination.

Numerical models of geothermal systems by New Zealand researchers M.P. Hochstein and M.J. O'Sullivan showed that the heat produced by nuclear explosions under Moruroa would carry contaminated groundwater up *typical, homogeneous pathways* to Moruroa lagoon in tens of years [4]. Together, these Moruroan numerical models and the Hanford groundwater pathway studies suggested that radioactive contamination of Moruroa lagoon from underground nuclear explosions had probably already begun along exceptional pathways.

In order for a small Greenpeace sampling team to detect and evaluate radioactivity leaking from underground explosions at Moruroa and Fangataufa, samples would have to be analyzed in *real time* so that further sampling could benefit from initial results. Thus, a sensitive instrument for analysis of radionuclides was designed in 1987 with a requirement that it could be installed on a Greenpeace sailing vessel. This sodium-iodide well-type detector was first tested in 1988 and improved thereafter.

Meanwhile, the French CEA invited Jacques-Yves Cousteau to bring Calypso to Moruroa to reassure neighboring countries that there was no danger of radioactive pollution from underground nuclear tests [5]. Although the Calypso team was restricted by military secrecy and was only able to collect samples and observe fracturing of the atoll on two days -- 22 and 23 June 1987 -- Cousteau detected escape of iodine-131 which has a halflife of only 8 days. French authorities subsequently attributed this presence of iodine-131 to a previously unannounced, completely exceptional venting accident that had occurred just before Cousteau arrived.

Of even greater concern than the detected iodine-131 was Cousteau's discovery of cesium-134 in water, sediment, and a trace in a zooplankton sample. Analysis of Cousteau's data showed that by 1987, French underground nuclear explosions contributed most of the radio cesium emerging from Moruroa lagoon [1].

Based on these indications of leakage from French underground nuclear explosions, Greenpeace formally proposed to the French government a sampling program at the nuclear test sites [6]. For this scientific study, Greenpeace installed a laboratory on the new sailing vessel Rainbow Warrior in San Francisco in October 1990. A marine biologist from New Zealand, Bruce Gabites, and a physical oceanographer from USA, Norm Buske, comprised the scientific team.

The French government did not respond to the Greenpeace proposal, and the Rainbow Warrior sailed for French Polynesia on 3 November 1990. After port call in Papeete, the Rainbow Warrior arrived off Moruroa on 3 December 1990. Throughout her stay near French territorial waters, the Greenpeace ship was escorted by French warships.

Because the French government declined to allow scientific research within territorial waters, a study of zooplankton flushed by spring tides from Moruroa lagoon commenced immediately. Two *downcurrent* samples were collected during the first night, from southwest of Moruroa, with sampling locations selected on the basis of current measurements and tide tables [7]. Two *upcurrent* background reference samples were collected northeast of Moruroa during the next night (4-5 December). The samples collected on 3 and 4 December were gamma scanned and found to contain considerable natural thorium-234 from the decay of natural uranium-238. (Other samples were later collected far from the French nuclear test site to assure that the French test site itself was not the primary source of this thorium.) During the night of 6-7 December, two more zooplankton samples were collected between Moruroa and Fangataufa.

Initial analyses indicated the presence of low level contamination of downcurrent zooplankton with cesium-134 and traces of cobalt-60 and antimony-125. With tradewinds failing and diminished lagoonal flushing due to decreased tidal range, zooplankton sampling off the 12-mile limit was terminated.

On 10 December, a Greenpeace team of five, towing a plankton net behind an inflatable boat, set out for Moruroa lagoon to collect zooplankton and lagoon water close to possible sources of leakage. This team was arrested by the French military and returned that night to the Rainbow Warrior.

A second sampling team towed a plankton net into French territorial waters early the next morning. This team was arrested and transported to detention on Moruroa. The team attempted to continue sampling. Lagoon water was collected by T. Popp in drinking water bottles which she carried to the edge of the lagoon. Other samples were a pipe pulled from the lagoon and fruit and flowers from a small tree at the detention center on Moruroa. On 12 December, sampling was banned, and most of the lagoon water, the pipe, and the fruit and flowers were confiscated. Nonetheless, sampling continued with house flies, one cockroach, and four specimens of marine concrete collected at the detention center. Sampling was

documented with photographs taken secretly. Unfortunately, all samples were confiscated when the sampling party was searched before deportation. All photographic film was exposed.

Both sampling teams were well treated by the French authorities. The prisoners were flown to Papeete on 13 December and deported from French Polynesia.

The gamma ray spectral analyses performed aboard the Rainbow Warrior were repeated with similar equipment ashore, for more precise (5,000 minute) analyses of the zooplankton samples. Analysis of the four downcurrent zooplankton samples and the major upcurrent Background Sample was completed in April 1991.

## METHOD

The zooplankton sampling program is described here. The remainder of the proposed research -- which was precluded by the arrest and deportation of the Greenpeace scientific party -- is described in Greenpeace's preliminary proposal [6].

### APPROACH

While the 1990 scientific mission to Moruroa was being assembled on the Rainbow Warrior in San Francisco, Greenpeace learned that the French government was not going to accept critical sampling of their nuclear test site, notwithstanding the stated French policy of "transparency." Therefore, Greenpeace sought a way to detect radioactivity leaking from the underground nuclear explosions, which would not depend on French cooperation. The general considerations and their approximate effects were as follows:

Without French cooperation, Greenpeace could only sample farther than 12 miles from the atolls of Moruroa and Fangataufa. Thus, any radioactivity in the lagoons would be greatly diluted by Pacific Ocean water before it could be sampled. This necessitated identification of a sample medium that would concentrate radioactivity flushed into the open ocean from the lagoons. Comparison of the radioactivity of Cousteau's plankton sample and his water samples from Moruroa lagoon showed that Möruroan plankton concentrated typical artificial radionuclides of interest, such as cobalt-60, cesium-134, and cesium-137 by a factor of roughly 100 [8]. Other scaling effects (and rough factors in parentheses) were then approximated in order to anticipate the feasibility of sampling artificial radioactivity in lagoonal zooplankton that might be collected outside the 12-mile limit:

- △ The lagoons of the French Nuclear Test Site are expected to have a far greater abundance of zooplankton than the open ocean so that there would be relatively few oceanic zooplankton in the waters of the high seas to dilute lagoonal zooplankton swept out to sea. (Relative zooplanktonic abundance factor =100.)
- △ Moruroa and Fangataufa lagoons are tidally flushed. Only during ebb tide are slugs of zooplankton flushed from the lagoons. By reference to tide tables, the times of these discharges could be known. Further, the volumes of water

flushed from the lagoons would be much greater during spring ebb tide than during typical ebb tide. (Tidal factor = 3.)

- △ While plankton are, by definition, carried by ocean currents, zooplankton undergo diurnal vertical migration with a maximal abundance of Moruroan plankters within 10m of the sea surface between 18:00 hours and 03:00 hours [9]. Greenpeace sought to sample zooplankton tidally flushed from the lagoonal entrances during a nocturnal ebb tide when most of the zooplankton would be close enough to the water surface to be swept from the 10.2m deep channel from Moruroa lagoon and from the 6.5m deep channel from Fangataufa lagoon [10]. The vertical migration of (radioactive) zooplankton would then prevent a downward mixing of the zooplanktonic radioactivity after the zooplankton had been flushed to sea. (Non-vertical mixing factor = 10.)
- △ By measuring surface water currents near the atolls, Greenpeace could estimate (and move to sample) the location where zooplankton flushed from either lagoonal entrance channel would be expected, 24 hours after their tidal flushing from the lagoon. (Current measurement factor = 30.)

Each of these effects (and the rough factors) indicated a ratio of the expected concentration of radionuclides in zooplankton appropriately sampled beyond the 12-mile limit in comparison to the mean concentration of radionuclides in seawater contaminated by lagoon water flushed tidally to sea. The overall effect was the product of these effects (with an overall factor roughly the product of the factors = 10,000,000; suggesting possible collection of zooplankton some  $10^7$  times as contaminated as typical surface water at the 12-mile limit). *A priori* chance of at least one positive result -- based on these considerations, on available equipment, and on assumed collection of two satisfactory downcurrent samples and one upcurrent background sample -- was estimated at 50%.

This feasibility estimate showed that sampling of radiologically contaminated zooplankton was marginally plausible, though unsatisfactory, near the 12-mile limit. Therefore, preliminary zooplankton sampling, incorporating efforts to achieve the displayed effects, was undertaken just outside territorial waters to test for an indication of radioactive leakage from French underground nuclear testing, without entering the military exclusion zone.

Greenpeace recognized that a positive result would not prove the origin of the sampled radioactivity. Thus, zooplankton sampling was begun as the first step toward preliminary, critical scientific study of radioactive contamination of Moruroa and Fangataufa. Following this positive result, the second step of the study involved identification of the specific source of sampled radioactivity. Unfortunately, the French military terminated this second step by arresting the Greenpeace scientific party before it reached Moruroa lagoon. Thus, only the first step of the preliminary study was completed.

#### TIDES

Local times of high and low water and tidal elevations for Moruroa appear in Table 1, on the next page [7]. "Y" indicates a particular ebb tide on which zooplankton flushed from the lagoons was sought beyond the 12-mile territorial limit.

Table 1. Predicted Tidal Elevations for Moruroa, 1990

Date	1 December				2 December			
Local Time	01:26	07:36	13:47	20:24	02:19	08:28	14:39	21:18
Height [m]	1.0	0.3	1.2	0.2	1.0	0.3	1.2	0.2
3 December				4 December				5 December
03:13	09:23	15:32	22:13	04:09	10:21	16:27	23:10	05:07
1.0	0.3	1.1	0.3	0.9	0.4	1.1	0.3	0.9
6 December				7 December				
00:10	06:09	12:28	18:28	01:31	07:14	13:36	19:33	02:13
0.4	0.9	0.5	0.9	0.4	0.9	0.5	0.9	0.4

### CURRENTS

Surface current velocities were measured with drogues, typically at one meter depth. Changes in drogue positions were measured from the Rainbow Warrior while passing the drogues, by radar fixes on sharp radar reflections from the atolls. Typical drogue fix precision was 100m. Typical drogue study duration was two hours. Drogue station locations with velocity arrows appear in Fig. 2, on the next page. Results of current measurements appear in Table 2.

Table 2. Current Measurements

Drogue Station	Local Time [GMT-9:00]	Date December	Current Speed/Setting [m/s]	Wind Speed/Direction [m/s]	Speed/Direction [degrees]
A	13:30-15:30	3	0.25	175	8 160
B	19:30-21:00	3	0.32	325	11 150
C1	13:40-16:00	4	0.73	310	11 140
C2	14:20-16:30	4	0.40	295	11 140
D	16:50-17:10	6	0.43	290	6 060
E	08:15-09:25	7	0.19	190	7 350

With tradewinds failing from the beginning of this study, currents were variable. The synoptic measurements at Stations C1 and C2 hint at the spatial variability. Station C1 and C2 current velocities were used to locate a Background Sampling location as close to Moruroa and Fangataufa as practical while still being upcurrent, see Fig. 2.

Current velocities at Stations A and B suggested a possible surface convergence southwest of Moruroa. Zooplankton Samples 1 and 2 were collected from this area. The current measurement at Station D suggested that lagoonal material from Fangataufa might possibly be obtained in Sample 3. However, the subsequent measurement at Station E did not confirm this possibility.

### SAMPLING

Zooplankton were collected by towing two or three plankton nets of 243 micron mesh and 0.5m mouth, at speeds of 1.5 to 2m/s, depending on sea conditions. This mesh approximated the 260 micron mesh net used by Cousteau for the 23 June 1987 plankton tow, allowing comparison of results. Typical tow

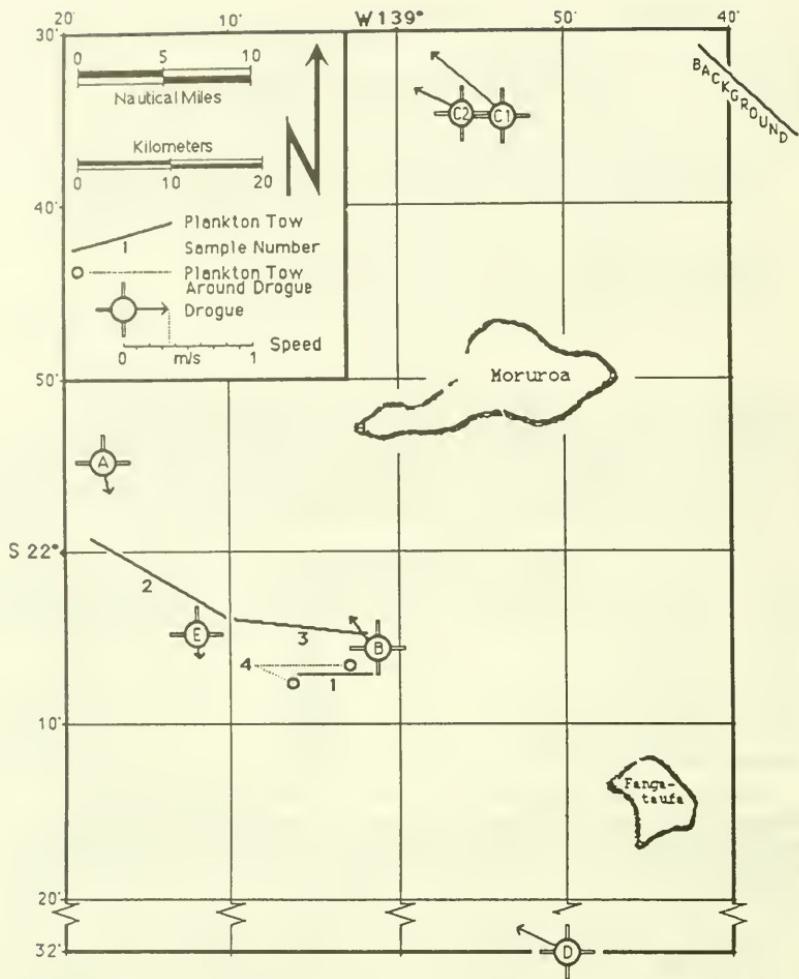


Fig. 2. Plankton Tow Locations and Current Drogue Stations.

durations were four hours. In half of samples, 20 minute tows by a single net were collected for composition analysis to estimate lagoonal/oceanic origin of the zooplankton. Locations of zooplankton collection appear in Fig. 2 and local times appear in Table 3, on the next page.

Table 3. Local Times of Plankton Tows

	Sample 1	Sample 2	Background	Sample 3	Sample 4
December	3	3 - 4	5 - 6	7	7 - 8
Start Time	17:15	22:30	18:10	00:30	21:45
End Time	21:55	03:10	00:25	06:00	02:35

The intended ebb tide for lagoonal flushing of zooplankton for Samples 1 and 2 is marked by the first ¥ in Table 1 and the intended ebb tide for Sample 3 by the second ¥.

Samples 1, 2, 3 and Background were collected by plankton nets towed astern the Rainbow Warrior. Sample 4 was collected by a *Lagrangian* method; wherewith, each of two small inflatable boats towed a plankton net around and around a free current drogue, Fig. 2, which drifted with the sampled water mass. The plankton tows for Sample 4 tested nocturnal sampling operations remote from the Rainbow Warrior in preparation for extensive sampling in Moruroa and Fangataufa lagoons.

#### SAMPLE PREPARATION

Plankton were washed from the nets into their cod buckets, with pumped seawater. The contents were rinsed with commercially bottled fresh water and combined on 243 micron netting to form a sample. This netting was placed on folded paper towelling to drain for nominally two hours. The zooplankton sample was then weighed. Ten percent of Sample 1 and 20 percent of the counted Background Sample were removed and oven dried at 110°C to determine wet/dry weight ratio.

#### ANALYSIS

Sample 1 had a wet/dry weight ratio of 9.0, and the Background Sample had 11.4. The wet/dry weight ratio for each of the other three counted samples was assumed to be 10.

Wet plankton samples were placed in 125ml polyethylene Boston round counting bottles. The counting bottles were filled to volume with formaldehyde in distilled water and agitated. (Typical relative density was 1.01.) Sample bottles were rinsed, dried, placed in thin polyethylene bags, and lowered into the well detector. Samples were counted for 1000 minutes aboard the Rainbow Warrior.

Radiological analysis was based on a Canberra System 100 gamma ray spectrometer. The 8cm by 15cm sodium iodide well detector was designed around the sample bottle which had been selected for radiological samples to be collected from Moruroa. The detector was situated in a 5cm thick, low-noise, lined lead shield placed in a computerized air temperature controller which held temperature to  $\pm 0.02^\circ\text{C}$ .

The 4,000 channel, sample spectra were single-point energy calibrated at approximately 4 hour intervals, holding the mid-spectral, 661.7KeV, Cs-137 photo-peak at Channel  $1595 \pm 3.6$ . Spectra were transformed to 500 channels of constant photo-peak width and uniformly smoothed. Photo-peaks were counted to 8 channels on either side of the listed photo-peak energy channel for scanned

radionuclides. A distilled water "blank" was subtracted from each sample and from the background spectrum. This analysis technique has proven relatively sensitive, well behaved, and intercalibratable for low-activity environmental samples.

Aboard ship, the background spectrum was subtracted from each sample spectrum in order to eliminate much of the effect of natural background emitters, particularly uranium and thorium decay daughters and potassium-40. Although this background subtraction was useful for initial analyses, it increased the counting uncertainty by 40% and introduced a possibility of false-positive results due to incidentally weak photo-peaks in the background spectrum.

The samples were returned to the base laboratory in Washington State, USA for 5,000-minute recounting in a similar gamma ray spectrometer in order to confirm or reject the initial results by halving the counting uncertainty. For the purpose of this recounting, any photo-peak which was positive in the background spectrum was eliminated from the radionuclide analysis. Thus, only spectral regions which were negative in the background were examined to reveal the possible presence of artificial gamma radioactivity. This technique rejected false positives attributable to photo-peaks in the Background Sample while it avoided counting uncertainty that would be introduced by subtracting background. The background sample then tested negative for cesium-134 at  $-19 \pm 20$  Bq/kg and negative for cesium-137 at  $-12 \pm 17$  Bq/kg (dry), where the " $\pm$ " values are one standard deviation counting uncertainty (= 84% confidence of a positive result based only on counting statistics) [13]. These negative activities in the Background Sample eliminate likely common-mode false positive results for the samples. According to this conservative analytical procedure, reportable radionuclides are necessarily not detectable (ND) in the Background Sample.

## RESULTS

Initial analyses aboard the Rainbow Warrior revealed about 6 Bq/kg (dry) of cesium-134 in Sample 1, traces of cobalt-60 in Samples 2 and 3, and a trace of antimony-125 in Sample 3. Tentatively positive results for cesium and cobalt were announced immediately, and access for closer sampling was requested. As antimony-125 had not been reported in Cousteau's Moruroan plankton sample, this initial result was withheld pending confirmation. Samples were recounted at the base laboratory with the results shown in Table 4, where "ND" means that the listed radionuclide was not detected:

Table 4. Long-lived Artificial Radioactivity in Zooplankton [Bq/kg, dry weight\*\*]

Artificial nuclide \ Wt.	Sample 1 8.2g	Sample 2 6.2g	Sample 3 8.1g	Sample 4 8.1g	Cousteau [11] (23 June 1987)
Antimony-125	ND	ND	7 $\pm$ 20	ND	<220 $\pm$ 190
Cobalt-60	ND	ND	ND	ND	13 $\pm$ 2
Cesium-134	14 $\pm$ 12	11 $\pm$ 16	-1 $\pm$ 12	8 $\pm$ 13	-3
Cesium-137	4 $\pm$ 15	8 $\pm$ 19	8 $\pm$ 15	12 $\pm$ 15	3 $\pm$ 1.5
Europium-155	ND	ND	ND	ND	34 $\pm$ 4

\* Above Background.

\*\* "Bq" = Becquerel. 1 Bq = 1 nuclear disintegration per second = 27pCi. "kg" = kilogram.

The initial, positive results for cesium-134 in Sample 1 and antimony-125 in Sample 3 were supported by this recount; whereas, the indication of a trace of cobalt-60 in Samples 2 and 3 was not confirmed. The reported presence of cesium-134 in Sample 1 was found to be insensitive to spectrometric analytical procedure [13].

The mean radiocesium activities of the four downcurrent samples was

Table 5. Mean Radiocesium in Samples [Bq/kg, dry weight]

Cs-134	8 ±7
Cs-137	8±8

\* Above background

Buske attributed the presence of cesium-134 in water collected from Moruroa lagoon by Cousteau to neutron activation of cesium-133 in materials near the underground nuclear explosions [1]. Because French military restrictions precluded Greenpeace from sampling near possible sources of radioactive leakage from nuclear explosions under Moruroa and Fangataufa lagoons, sampling which could have defined the intensity and pinpointed the sources of peak radioactivity within the lagoons was prevented. Thus, the occurrence of radioactive leakage from the underground tests can only be proven or discounted by systematic scientific investigation of the atolls and their lagoons.

Antimony-125, with a halflife of 2.76 years, is an artificial radionuclide produced in nuclear reactors and by nuclear explosions. The short halflife of antimony-125 precludes historic atmospheric nuclear testing as the source of this radionuclide and implicates French underground nuclear testing. However, no analysis of alternative candidate sources of antimony-125 has been performed.

The analytical technique employed in this study eliminated results for radionuclides having positive gamma ray photo-peaks in the background sample. These included potassium-40 and the uranium/thorium decay sequences. Of greatest interest was thorium-234, the alpha-decay daughter of natural uranium-238. Thorium-234 was confirmed by decaying the sample spectra and verifying the 20 day halflife of this radionuclide. The rinsed samples contained about 30,000 Bq/kg (dry) of thorium-234. This compared to only 3,000 Bq/kg of potassium-40. Because the background sample had the second highest thorium-234 activity observed, the presence of this radionuclide was not ascribed to an origin close to the French Nuclear Test Site. This detection of substantial thorium-234 is under review because this radionuclide is usually not abundant in marine zooplankton [14].

Preliminary visual and microscopic examinations of the samples at the time of their collection indicated that Samples 1, 3, and 4 were partly of near-shore (atoll) origin. Sample 1 contained a small flatfish. Crab larvae were the conspicuous constituents of Samples 3 and 4. There were no conspicuous indicators of zooplankton of atoll origin in Sample 2 or the Background Sample.

Short plankton tows collected concurrently with zooplankton Samples 1, 3, and Background were counted for taxonomic composition. The only striking indicator of near-shore/oceanic origin of the zooplankton in these composition tows

was Brachyura zoeae (true crab larvae) [15]. Results of this composition count appear in Table 6.

Table 6. Near-shore Indicator in Composition Plankton Tows.

Taxa	Sample 1	Sample 3	Background
Brachyura zoeae	0.4%	16.0%	<0.2%

This taxonomic counting quantified crab larvae as an indicator of zooplankton of atoll origin in part of Sample 3. The likelihood that these abundant, larval stage, near-shore zooplankton might have originated at some distant atoll, such as Tureia or Vanavana 100km to the north, was precluded by consideration of lateral mixing with which plankton concentrations from a small source would be diluted as the square of the distance from the source, even without consideration of plankton mortality. Thus, the most probable origins of these near-shore zooplankton were Moruroa and/or Fangataufa.

## CONCLUSIONS

- 1. Cesium-134 has been confirmed with 87% confidence (based on counting statistics) at 8 Bq/kg in zooplankton selectively collected from international waters 12-14 miles downcurrent of the French nuclear test site at Moruroa in the South Pacific.
- 2. After cesium-134 was detected in zooplankton on the high seas, Greenpeace scientific parties entering French territorial waters were arrested, precluding verification of the activity and source of this radioactivity.
- 3. Detection of artificial radioactivity in zooplankton near the French nuclear test site raises serious environmental questions. The short, two year halflife of cesium-134 precludes atmospheric testing as an explanation, further diminishing confidence in the ability of Pacific coral atolls to contain the radioactivity from more than 120 underground nuclear explosions which have taken place since 1974.
- 4. In order to evaluate the present and future implications and impacts of nuclear testing beneath Moruroa and Fangataufa atolls, critical scientific sampling and review with minimal compromises for military secrecy are urgently needed.

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- [2] A.S. Burrows, R.S. Norris, et al., French Nuclear Testing, 1960-1988, NWD 89-1, Natural Resources Defense Council, 1350 New York Ave. NW, Washington, DC 20005, (February 1989) 16-17.
- [3] N. Buske and L. Josephson, Spring 1986 Data Report, Hanford Reach Project, Search Technical Services, HCR Box 17, Davenport, WA 99122, (April 1986); U.S. Geological Survey, Subsurface Transport of Radionuclides in Shallow Deposits of the Hanford Nuclear Reservation, Washington--Review of Selected Previous Work and Suggestions for Further Study, Open-File Report 87-222, Books and Open-File Reports, Federal Center, Denver, CO 80225, (1987).
- [4] M.P. Hochstein and M.J. O'Sullivan, "Geothermal systems created by underground nuclear testing: implications for long-term, direct effects of underground testing," International Scientific Symposium on a Nuclear Test Ban, Las Vegas, Nevada, (January 1988).
- [5] Cousteau Foundation, Scientific Mission of the Calypso at the Mururoa Site of Nuclear Testing, trans. M.D. Davis, available from Greenpeace USA, (November 1988) 1. Results were published by J-M. Martin, A.J. Thomas, et al., "Assessment of artificial radionuclides issued from French nuclear bomb testing at Mururoa (French Polynesia)," Environmental Technology, 11, (1990) 197-204.
- [6] "Preliminary proposal for research on nuclear test sites in French Polynesia (Moruroa and Fangataufa)," Memorandum, Greenpeace International, (October 1990).
- [7] Tidal elevations and times were estimated from Apia, Samoa data, Hydrographer of the Navy, "Pacific Ocean and adjacent seas," Admiralty Tide Tables, 3, (1989) 338.
- [8] Cousteau, Tables 2 and II.3.3, assuming a wet-to-dry weight ratio of ten.
- [9] A. Michel, Cahiers Pacifique, 13, "Plancton du lagon et des abords extérieurs," (1969) Fig 26 and Table 6.
- [10] Sailing Directions (enroute) for the Pacific Islands, 3rd ed., Pub. 126, Defense Mapping Agency, Hydrographic/Topographic Center, (1988) 17.
- [11] Cousteau, Table 2. Although Cousteau reports in his Table 2 that cesium-134 was not detected ("n.d."), the detection was described as "weak" on p.29 at "about 75pCi/kg."
- [12] The negative radioactivities reported for the background have no physical meaning. Their analytical meaning is that zooplankton upcurrent of Moruroa do not exhibit unidentified gamma energy at the photo-peak regions of interest. That is, false positives due to unidentified background (general) planktonic gamma energy peaks are eliminated.

Reported counting uncertainty is the square root of the total number of counts in the spectral region of interest (i.e., the spectral band counted for the photo-peak and converted to Bq). This counting uncertainty equals the standard deviation of values obtained by repeated counting of the sample.

- [13] Precise temperature control of the gamma ray spectrometer allowed verification of precise peak energies of the confirming recount for Sample 1, cesium-134. Results remained positive

for a wide range of spectral widths for peak counting and for background subtraction. Major process materials were gamma scanned to eliminate the plausibility of a false positive due to contamination.

In order to assess the reliability of the reported values of cesium radionuclides near 8 Bq/kg, three ratios of nuclide activities were considered: Table 5 shows that the ratio of downcurrent Cs-134 to (above background) Cs-137 is probably close to unity. This accords with the single Cousteau plankton sample, in Table 4 (Cousteau's Table 2 with Cs-134 datum on his p.29). Ratios of cobalt-60/radiocesium and europium-155/radiocesium were anticipated by multiplying the concentration factor (CF) for zooplankton recommended by the International Atomic Energy Agency times the concentrations (Conc) of the respective nuclides reported by Cousteau in the most contaminated location he sampled in Moruroa lagoon in 1987 -- Station P1-f. [See Sediment K<sub>d</sub>s and Concentration Factors for Radionuclides in the Marine Environment, Technical Reports Series No. 247, International Atomic Energy Agency, Vienna, (1985) Table IX. IAEA values are for wet weights and are multiplied by 10 in Table 7. Cousteau, Table II.3.3 provides lagoon water analysis for 22 June 1987.] The product -- (CF)(Conc) -- is adjusted to the observed value of 8 Bq/kg of Cs-134 by dividing by 98. Then the anticipated activities of cobalt-60, cesium-134, and europium-155 are as follows:

Radionuclide	Concentration Factor IAEA Recommended (CF)	Cousteau Sta. P1-f (Conc) [Bq/kg]	Anticipated (CF)(Conc)/98
Antimony-125	600	ND	?
Cobalt-60	20,000	0.24±0.10	49
Cesium-134	300	2.60±0.18	8
Cesium-137	300	10.85±0.30	33
Europium-155	10,000	<0.26	<27

(Antimony-125 is tabulated for comparison, although Cousteau did not detect this radionuclide in Moruroa lagoon water.) These relative, anticipated activities may be compared to the Cousteau plankton data in the last column of Table 4. Summing the two cesium radionuclides, the Cousteau plankton exhibited cobalt/cesium ratio of 2.2 and europium-155 / cesium ratio of 6. Cousteau's cobalt/cesium compares reasonably with the respective "anticipated" ratio of 1.6; whereas, the "anticipated" europium-155/cesium ratio of <0.7 is less than Cousteau observed. With the analytical technique of this study in which false positives were suppressed, neither cobalt-60 nor europium-155 were detected ("ND" in Table 4). The europium-155 counting region at 105KeV was very negative (~150 Bq/kg) as was the cobalt-60 counting region at 1332KeV (~100 Bq/kg). The negativenesses of these regions would likely have precluded detection of these radionuclides at the anticipated activities of Table 7.

- [14] International Atomic Energy Agency, Effects of Ionizing Radiation on Aquatic Organisms and Ecosystems, Technical Reports Series No. 172, Vienna, (1976) Table III.
- [15] B. Gabites, "Biological analysis of zooplankton samples collected off-shore from Moruroa and Fangata'ula atolls: December 1990," manuscript (April 1991).

**EMBASSY OF THE REPUBLIC OF THE MARSHALL ISLANDS**

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November 20, 1995

H.E. Doug Bereuter  
Chairman  
Subcommittee on Asia and  
the Pacific  
2348 Rayburn HOB  
Washington, D.C. 20515

Dear Chairman Bereuter:

I want to thank you for convening a hearing on November 15 entitled "Nuclear Issues in the South Pacific." The Government of the Republic of the Marshall Islands welcomes any exchange of views on issues which are of mutual concern to the United States and the Pacific region. Your hearing last week was an auspicious occasion to discuss two items of crucial importance to the Pacific; French nuclear testing, and the Treaty of Rarotonga.

As a nation and peoples that understands first-hand the devastating effects of nuclear weapons on human beings and the environment, the Marshall Islands has definite views about French testing and the South Pacific Nuclear Free Zone. The Marshall Islands would not wish the suffering it has endured on any of its Pacific neighbors, and therefore, remains in staunch opposition to the continued testing of nuclear weapons by France in the region. For the record, I hereby submit this letter, and a letter from His Excellency Amata Kabua, President of the Marshall Islands, to His Excellency Jacques Chirac, President of France.

I am sorry that there were no representatives from the Pacific region included as witnesses during the November 15th hearing. The Marshall Islands certainly would have appreciated an opportunity to offer its thoughts, and share its experiences with the Subcommittee. Afterall, it is partly because of the devastating human and environmental consequences of nuclear testing witnessed in the Marshall Islands that nations throughout the world understand the need to work towards universal disarmament, and arms control.

For the record, I wish to state the Government of the Republic of the Marshall Islands' objections to several of the comments made by Ambassador William Bodde at the November 15th hearing. While the Republic concurs with Ambassador Bodde's remarks pertaining to the importance of U.S. ratification of the protocols to the Treaty of Rarotonga and concern about French nuclear testing in the region, the Marshall Islands takes exception to Ambassador Bodde's comments about several matters largely outside the scope of the hearing's topics.

The Marshall Islands is offended by Ambassador Bodde's suggestion that the moneys Marshallese landowners receive for leasing Kwajalein to the United States is more than the Marshall Islands can absorb, and is not helping to address the health, social, and infrastructure needs in Kwajalein. The Marshall Islands has always been a close an important ally of the United States. We offer Kwajalein to assist the United States with its national security needs. Kwajalein is of tremendous economic and social importance to the Marshallese, and the payments the landowners receive are just compensation for the relocation and lost economic potential for the people of Kwajalein. Land payments have been used by the people of Kwajalein to improve housing, and reduce crowding. The land payments are used to help fund schools, a hospital, and a desalination and energy plant. The people of Kwajalein are making visible improvements which do not deserve to be undermined by Ambassador Bodde's statement.

In regards to Ambassador Bodde's testimony pertaining to the people of Bikini, the Government of the Republic of the Marshall Islands concurs with the submission to the record of the Subcommittee of the Bikinian's legal counsel, Mr. Jonathan Weisgall. As Mr. Weisgall stated, the people of Bikini and the United States Government are working in concert to ensure that the people who were exiled from their land to accommodate U.S. nuclear weapons tests are adequately provided for.

Ambassador Bodde stated in his November 15th testimony that winds near Bikini Atoll shifted on March 1, 1954 - the day the Bravo shot was detonated - and accidentally exposed Marshallese citizens living downwind of ground-zero. For the record, the Marshall Islands submits the weather forecast taken just six hours prior to Bravo, which as you will note, Mr. Chairman, indicates that the winds were blowing directly towards Rongelap and other inhabited atolls southeast of Bikini prior to test time. The winds did not suddenly switch after the detonation of Bravo.

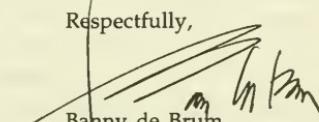
Ambassador Bodde also stated that it "seems" there are illnesses in the Marshall Islands, such as thyroid illness, which can be attributed to radiation. Similar to the Japanese atomic bomb survivors, and the U.S. Veterans exposed to radiation, the Marshallese experience numerous illnesses associated with radiation exposure. The current list of 27 illnesses currently

recognized by the Nuclear Claims Tribunal in Majuro is hereby submitted for the record. The effects of radiation on human beings should in no way be trivialized by the comments of Ambassador Bodde: radiation exposure has lifelong health implications for those who survive.

In short, Ambassador Bodde should not be using his former position with the State Department in a manner which is damaging to U.S. - Marshall Islands bi-lateral relations. As a private citizen, Ambassador Bodde is entitled to his own opinions. As a former U.S. Ambassador, the Marshall Islands does not believe Ambassador Bodde should be using opinions he formed as a result of his former position to damage the Marshall Islands. Furthermore, Ambassador Bodde's comments are not consistent with an organization which promotes Pacific economic opportunity. Public attacks against a sovereign Pacific nation certainly do not facilitate cooperation in the region.

Thank you again, Congressman, for convening the November 15th hearing. The Marshall Islands would appreciate an opportunity to personally discuss nuclear issues in the region with you.

Thank you for stating at the hearing that the record remains open to allow others to submit their comments.

Respectfully,  
  
Barry de Brum  
Charge d'Affaires

cc : Congressman Howard Berman  
Congressman Eni Faleomavaega  
Congressman Elton Gallegly  
Franklin Huddle, Department of State  
Allen Stayman, Department of Interior



*President*

REPUBLIC OF THE MARSHALL ISLANDS

APPENDIX I

18th August 1995

Dear Mr. President

I wish to express my appreciation for your effort to share with me in your letter dated 10th August 1995, the different elements involved in France's plan to resume a series of nuclear testing in Mururoa Atoll, French Polynesia, beginning this September, to be completed in May 1996.

I especially took note Mr. President of your position which states that France carries with it "painful memories," having suffered three invasions in less than a century." And that out of your sense of "responsibility" towards France, the underlying purpose of the testing is "to prevent any risk in a future that is by definition uncertain."

It is precisely for identical reasons Mr. President that I wish to expostulate our position in the Marshall Islands with respect to the issue of nuclear testing in Mururoa Atoll, or for that matter, anywhere else in the world.

The people of the Republic of the Marshall Islands, even as I pen this letter, are not only carrying with them "painful memories," but are also experiencing a whole host of physical, social and psychological complications resulting from nuclear testing conducted in our islands nearly a half-century ago. The effects of this nightmarish experience continue to haunt us even today as evidenced by the widespread prevalence of radiation-induced ailments. In addition, a whole group of islands have now been rendered a "habitation risk", whose full recovery remains unimaginable in terms of cost and guaranteed safety. Whether what we have been experiencing and are now witnessing represents an end to these complications or whether they are simply the beginning of greater sufferings and uncertainties remains a constant source of anxiety.

His Excellency Mr. Jacques CHIRAC  
President of the Republic of France



Like you in France who have suffered the horrors of war, we in the Marshall Islands also speak with the reality of our own painful experience - an omen we wish will never revisit us or anyone else, least of all upon a neighbor in the Pacific.

It is therefore, out of these stark realities Mr. President that I feel it my responsibility to raise my deep concern over France's resumption of nuclear testing in the Pacific, and sincerely appeal for your understanding.

Our position Mr. President, springs from a deep and profound conviction that in a world irreversibly moving towards a global society, it becomes imperative that we recast our perspective and attitude towards its future and evolving purpose.

Within the context of this larger evolving purpose, we in the Marshall Islands aspire more to a world firmly secured and permanently founded on the unshakable universal concept of human brotherhood, governed by principles of love, tolerance, compassion, respect, and unity. We believe that national impulses and interests, far from being disloyal to the nation, will find their fuller expression when subordinated to the imperative claims of a wider loyalty - loyalty to the whole world, the home of humankind. Only by embracing this world consciousness as a fundamental prerequisite, will the interests and concerns of one nation truly become the interests and concerns of all. Respectfully therefore, Mr. President, this belief invalidates as obsolete and far too narrow the assumption by any nation that nuclear deterrence is indeed an adequate safeguard and guarantee of a nation's security.

The people of the Marshall Islands are indeed anxiously looking forward to the signing of the Test Ban Treaty in the autumn of 1996 and are pleased to note France's intention to be a party to this Treaty. This initiative is noteworthy and a step in the right direction, and our nation will render its full support. However, we are also ever mindful that good and well-meaning intentions are not enough. The premise that the signing of treaties and



protocols including political agreements banning nuclear testing as a guarantee for collective security is, in our view, a chimera. Our knowledge of such initiatives in the past indicate that these are for the most part far too superficial and short-lived to expect from them any firm and lasting influence. Fully aware of people's ingenuity, the possibility of their resorting to other means and forms of warfare will continue to perpetuate the quest for supremacy and dominion.

We believe therefore, that only by invoking the universal moral perspective underlining the unifying concept of human brotherhood will the possibility of enduring solutions be truly found. Such a perspective will induce an attitude which will aspire to prepare the way for the discovery and implementation of genuine and long lasting practical measures.

The Republic of the Marshall Islands sincerely hope that France will reconsider its position on nuclear testing as it would attenuate the ardor of the rising will of humanity to unify and forge a new global society of brotherhood in harmony which will redound well in the most assured way to the prosperity and peace in the world.

Please accept, Mr. President, the assurances of my highest consideration.

Sincerely,



Amata Kabua  
President

A handwritten signature in black ink, appearing to read "Amata Kabua". Below the signature, the name "Amata Kabua" is printed in a formal, serif font, followed by the title "President" in a smaller, bold, sans-serif font.

## APPENDIX II

## Marshall Islands Nuclear Claims Tribunal

1. Leukemia (other than chronic lymphocytic leukemia) .....
2. Cancer of the thyroid
  - a. if recurrent or requires multiple surgical and/or ablation .....
  - b. if non-recurrent or does not require multiple treatment .....
3. Cancer of the breast
  - a. if recurrent or requires mastectomy .....
  - b. if not recurrent or requires lumpectomy .....
4. Cancer of the pharynx'.....
5. Cancer of the esophagus .....
6. Cancer of the stomach .....
7. Cancer of the small intestine .....
8. Cancer of the pancreas .....
9. Multiple myeloma .....
10. Lymphomas (except Hodgkin's disease) .....
11. Cancer of the bile ducts .....
12. Cancer of the gall bladder .....
13. Cancer of the liver (except if cirrhosis or hepatitis B is indicated) .....
14. Cancer of the colon (but not cancer of the rectum) .....
15. Cancer of the urinary bladder .....
16. Tumors of the salivary gland
  - a. if malignant .....
  - b. if benign and requiring surgery .....
  - c. if benign and not requiring surgery .....
17. Non-malignant thyroid nodular disease (unless limited to occult nodules)
  - a. if requiring total thyroidectomy .....
  - b. if requiring partial thyroidectomy .....
  - c. if not requiring thyroidectomy .....
18. Cancer of the ovary .....
19. Unexplained hypothyroidism (unless thyroiditis indicated) .....
20. Severe growth retardation due to thyroid damage .....
21. Unexplained bone marrow failure .....
22. Meningioma .....
23. Radiation sickness diagnosed between June 30, 1946 and August 18, 1958, inclusive .....
24. Beta burns diagnosed between June 30, 1946 and August 18, 1958, inclusive .....
25. Severe mental retardation (provided born between May and September 1954, inclusive and mother was present on Rongelap or Utirik Atolls at any time in March 1954) .....
26. Unexplained hyperparathyroidism .....
27. Tumors of the parathyroid gland .....

## APPENDIX III

1 March 1954

## MEMORANDUM FOR RECORD:

SUBJECT: Command Briefing, 0000, 1 March 1954

Members present: Gen. P.W. Clarkson, Gen. E. McGinley, Gen. H. Estes, Dr. A.C. Graves, Dr. W. Ogle, Mr. J. Reeves, Dr. D. Sewell, Capt. W.L. Knickerbocker, Col. W.S. Cowart, Capt. R. n. Maynard, Lt Col C.D. Bonnot, Lt Col R.A. House.

1. In general, the forecast presented at the midnight briefing was confirmed, except that in the levels between 5 and 15 thousand feet the forecast was light and variable. In an attempt to delineate direction to these winds, it was determined that the best forecast that could be given was for the 10 thousand foot level. This was forecast to be westerly at 10 knots as the most pessimistic situation. Consequently, the hodograph plot was made using the 10 thousand foot westerly wind in order to present the most pessimistic situation which would occur. This picture gave resultant winds in the direction of Rongelap and Rongerik; however, it was considered that the distance to Rongelap and Rongerik coopered to the resultant wind speeds were such that no fall-out should reach those atolls. From the forecast hodograph the time of travel to Rongelap would have been about 12 to 15 hours. The hodograph plot did however show that certainly TAAE site would be heavily contaminated, and most likely NAN. The hodograph gave two general fall-out areas. The lower level running from 260 degrees around through south to 90 degrees with a six hour fall-out line in the direction of the populated atolls in the southeast quadrant about 15 to 20 miles out from ground zero. The high level radar ran from about 45 degrees to 80 degrees with a six hour fall-out line to 70 miles. (Since the 6 hour fall-out lines were computed on about 100 micron particle size, it was recommended that the distance be doubled for safety. This amounted to considering particle sizes down to about 70 microns).
2. No change in the 72 hour cloud trajectories.
3. ~~R&D~~ Safe Outlooks were modified as follows:
  - a. Bikini atoll was changed from favorable to unfavorable.
  - b. Enewetak atoll remained very favorable.
  - c. Ujelang atoll remained very favorable.





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